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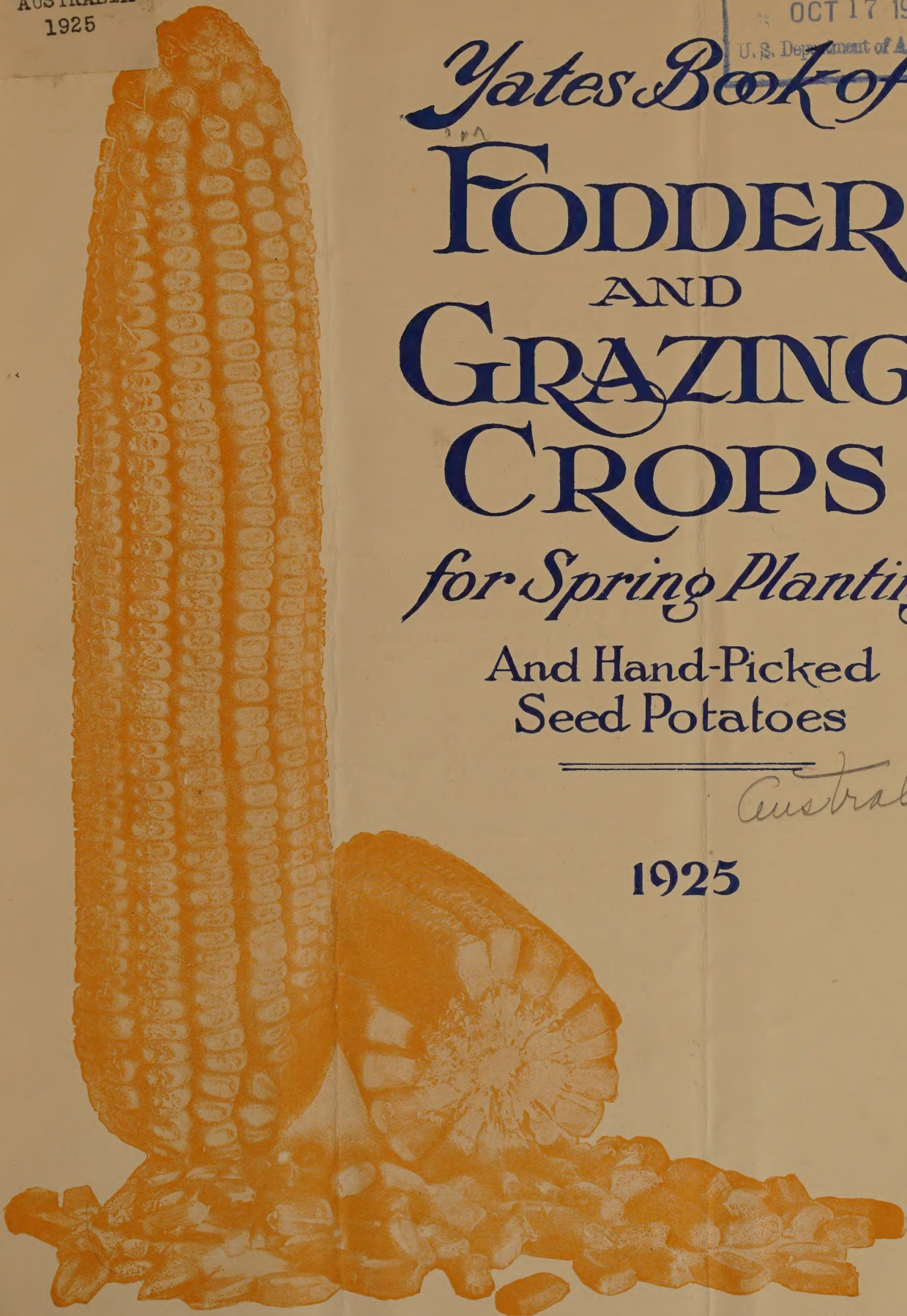
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Yates Book of
FODDER
AND
GRAZING
CROPS
for Spring Planting

And Hand-Picked
Seed Potatoes

Australia

1925



FODDER AND GRAZING CROPS

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TERMS AND CONDITIONS OF SALE

PRICES—

We do not print Prices in this Descriptive Catalogue as values fluctuate, and some of our supplies have not been received into store at time of going to press.

All charges are as set out in our Current Price List of Farm Seeds at time of booking order unless specially quoted otherwise.

The Price List now current is sent you herewith, and later issues will be posted promptly on receipt of enquiry.

DELIVERY—

We deliver Seeds on rail or wharf Sydney after which Seeds are on customer's account and at his risk. Orders sent by goods train are consigned carriage forward (except to unattended platforms), unless we are otherwise instructed at time of order.

Delivery within the Suburban area of Sydney will be made of Farm Seeds, Seed Potatoes, Manures, and Garden Sundries, at the following charges—6d. for 14lbs., 9d. for 28lbs., 1s. for 56lbs., 2s per cwt.

FORWARDING INSTRUCTIONS—

Please give full and careful directions with each order and we will do our utmost to comply with them. When no instructions are received we send according to our judgment.

POST TOWN and SIGNATURE—

Be sure your order bears these particulars before posting. Where postal address is different to address to which goods are to be forwarded please give both.

REMITTANCES—

Orders should be accompanied by remittance for the approximate value of goods, and freight to be included when order is to be sent by coastal steamer, passenger train or by rail to unattended platforms.

Remittances should be sent by Money Order, Postal Notes or Cheque (on country cheques please add exchange).

Our terms for Agricultural Seeds are strictly Nett Cash. Grass and Fodder Seeds (except Seed Grain) are invoiced at net weights and bags charged for. This is to buyer's advantage.

CORRESPONDENCE—

We are always pleased to advise customers and assist them with any information at our disposal, but we ask that letters of enquiry be as concise as possible, and that they be written separately from orders to avoid possible confusion and delay.

CONDITIONS OF SALE

And Non-Warranty

We believe that all Seeds, Bulbs, and Roots sold by us are of the description and kind specified by us at the time of sale; but owing to the practical impossibility in many cases of being certain of this, we give no undertaking that such Seeds, Bulbs, or Roots will correspond with the description under which they are sold, and we make all sales subject to this condition. We further give no warranty, expressed or implied, as to their growth, description, quality or productiveness, and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms, they are at once to be returned to us, and any money paid to us will be refunded.

ARTHUR YATES & CO. LTD.,

SUPPLIERS OF RE-CLEANED AND TESTED FARM SEEDS

184-186 SUSSEX STREET, SYDNEY, N.S.W.

LETTERS—G.P.O. BOX 2707

TELEGRAMS—"SEEDSMAN, SYDNEY."

Man's Oldest Occupation.

[T has been well said that "the cultivation of the ground, including the harvesting of Crops and the rearing and management of Live Stock, is not only the oldest but the most widely dispersed occupation of Civilized Man."

We, as Seedsman, consider it a privilege to minister to the Industry of Primary Production which is undeniably the fundamental and most important branch of human activity. Further, we believe that the providing of Seeds for growing the World's Foodstuffs is of the greatest interest to the Community, and we use our best efforts to send out only Seeds that will prove in every way worthy of their great purpose.

We now place the 1925 Edition of our Spring Fodder Book in the hands of Our Customers, confident that it will be of assistance, and trusting that it will lead to a still more widespread use of Fodder Crops and to more Intensive Cultivation.

YATES' FARM CALENDAR

Approximate times for sowing are denoted by

† for moderately warm climates where Oranges thrive.

* for cool climates, say where English Fruits thrive.

The most suitable times for sowing are very largely influenced by local conditions and seasons, and these and any local experience available should always be taken into consideration.

Farm Seeds

	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Artichoke, Jerusalem	...	...	...	...	...	†	†	†	...	...	...	...
Barley, Cape & Skinless	†	†	†	†	†	†	†	...	...	...	...	...
Barley, English	†	†	†	†	†	...	...	...	...	...	...	...
Beet, Sugar	...	...	...	...	...	...	...	†	†	†	†	...
Beet, Silver (Field)	...	†	†	†	...	...	...	†	†	†	†	...
Buckwheat	...	...	...	...	...	...	...	†	†	†	...	...
Canary	...	...	†	†	†	...	...	...	...	...	...	...
Carrot (Field)	...	†	†	...	...	...	...	†	†	†	...	...
Cabbage (Cattle)	...	†	†	...	...	...	...	...	...	...	...	...
Chicory	...	†	†	†	...	...	...	†	†	†	...	...
Clover (Sorts)	...	†	†	†	†	...	...	...	...	...	...	...
Couch	...	...	...	...	...	...	...	†	†	†	†	†
Cow Pea	...	...	...	...	...	...	...	...	†	†	†	†
Grasses, Pasture	...	†	†	†	†	...	...	...	...	...	...	...
Kale, Thousand Headed	†	†	†	...	...	...	...	...	...	...	...	...
Kale, Chou Moellier	†	†	†	...	...	...	...	...	...	...	...	...
Linseed (Flax)	...	...	...	...	†	†	†	...	...	...	...	...
Lucerne	...	†	†	†	†	...	...	...	...	...	...	...
Maize, for Grain	...	...	...	...	...	...	...	†	†	†	†	†
Maize, for Fodder	...	†	†	...	...	...	...	...	†	†	†	†
Mangel	...	†	†	...	...	...	...	†	†	†	...	...
Mangel, Half Sugar	...	†	†	...	...	...	...	†	†	†	...	...
Millet, (See Sorghum)	...	...	...	...	...	...	...	...	...	...	...	...
Mustard	...	†	†	†	...	...	...	†	†	†	...	...
Melon, Cattle	...	...	...	...	...	...	...	...	†	†	...	...
Oats, for Fodder	...	†	†	†	†	†	†	...	...	...	...	...
Oats, for Grain & Hay	...	†	†	†	†	†	†	...	...	...	...	...
Paspalum	...	†	†	†	...	...	...	†	†	†	†	†
Peanuts	...	...	...	...	...	...	...	...	†	†	...	...
Peas, Field for Fodder	...	†	†	†	†	†	†	†	†	†	...	...
" " " Soiling	...	†	†	†	†	†	†	†	†	†	...	...

Farm Seeds

	Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Peas, for Garden	...	†	†	†	†	†	†	†	†	†	†	†
" " Market	...	†	†	†	†	†	†	†	†	†	†	†
Pumpkin	...	...	...	...	...	...	...	...	†	†	†	...
Potatoes	...	...	†	†	...	...	...	†	†	†	†	...
Rape	...	...	†	†	†	†	...	...	...	...	...	...
Rye Corn	...	†	†	†	†	†	...	...	...	...	...	...
Rhodes Grass	...	†	†	†	...	...	...	...	†	†	†	...
Sainfoin	...	...	†	†	†	...	...	...	...	...	...	...
Saltbush	...	...	†	†	†	...	...	†	†	†	...	...
Shallots	...	...	†	†	†	...	...	...	...	...	...	...
Sheeps Burnet	...	...	†	†	†	...	...	†	†	†	...	...
Sorghums & Millets—	...	...	...	...	...	...	...	...	...	...	...	...
Saccharatum	...	†	†	...	...	...	...	...	†	†	†	†
Saccharine	...	†	†	...	...	...	...	...	†	†	†	†
Planter's Friend	...	†	†	...	...	...	...	...	†	†	†	†
Early Amber Cane	...	†	†	...	...	...	...	...	†	†	†	†
Millet, Fodder Vties	...	†	†	...	...	...	...	...	†	†	†	†
Millet, Broom	...	...	...	...	...	...	...	...	†	†	†	...
Grain Sorghums	...	...	...	...	...	...	...	...	†	†	†	...
Sudan Grass	...	...	...	...	...	...	...	...	†	†	†	†
Sunflower	...	...	...	...	...	...	...	...	†	†	...	...
Swede	...	†	†	†	...	...	...	...	...	...	...	...
Tagosaste	...	...	†	†	†	...	...	†	†	†	...	...
Tares	...	...	†	†	†	†	†	...	...	...	...	...
Tobacco	...	...	...	...	...	...	...	†	†	...	...	...
Teosinte	...	...	...	...	...	...	...	†	†	†	...	...
Turnip (Field)	...	†	†	†	...	...	...	...	...	...	...	...
Wallaby Grass	...	...	...	...	...	...	...	...	...	...	...	...
(Danthonia)	...	...	†	†	†	...	...	†	†	...	...	...
Wheat, for Fodder	...	†	†	†	†	...	...	...	†	†	...	...
Wheat, for Grain	...	...	†	†	†	†	†	...	...	...	...	...

BREAKING IN VIRGIN COASTAL COUNTRY TO PASTURE LAND.

PRACTICALLY all our rich coastal dairying country has had to be broken in from heavy timber scrub and undergrowth to its present condition of fertile pasture and agriculture. To aid him in beating the vigorous natural growth of weeds, bracken fern and scrub, the pioneer must have quick growing and prolific grasses. By sowing suitable grasses in the ashes after the first "burn" a thick sward results in a comparatively short time and this effectively stifles the native growth and encourages stock to trample down any young and uncut undergrowth, which otherwise would soon take charge again.

Paspalum Dilatum and **Rhodes Grass** have been proved to be the most suitable grasses for surface sowing after burning off in the coastal districts. They are both vigorous Summer growing grasses, and while giving of their best in rainy seasons, will also stand the driest spells without dying out. These two grasses are prolific seeders and both have the habit of spreading rapidly. So vigorous is Paspalum, that, until the introduction of Rhodes Grass, no other plant could withstand its encroachment, except Clover, but now Rhodes has proved itself of equal vigor and the two grow excellently together. Many farmers sow them together half and half by bulk measure (by weight say two lbs. of Rhodes and five lbs. Paspalum to the acre). The Rhodes usually comes away first and very soon carries good feed.

Every wise farmer will readily recognise the importance of sowing some Perennial Red Clover and White Clover with his grass seed on newly burnt country. These Clovers germinate readily after a good "burn," provided there is a reasonable amount of moisture in the soil, and cohabit with Paspalum in a remarkable manner. Till recently White Clover has been used most extensively for this purpose but Perennial Red Clover has latterly become popular because, besides standing up to the Paspalum just as well, it yields a considerably greater bulk of fodder. On any old Paspalum pasture where Clovers have been introduced they can be found growing strongly right through the root tufts of the Paspalum. Besides this peculiar affinity of the two species, Clovers are a most valuable addition to the feeding value of the pasture, and also improve and sweeten the soil. In Winter when Paspalum and Rhodes pastures are more or less dormant, Clovers will come through and give a welcome pick to stock.

If bracken fern is cut once and then burnt when dry, and Grasses and Clovers sown in the ashes, the grasses will quickly get a good hold, and with three more cuttings when the ferns are in vigorous growth, what was a fern covered waste, should be a good pasture land. Do not burn the cut ferns once the grass has been sown. When Paspalum and Rhodes Grass are established, no fern or other scrub growth need trouble the farmer again.

VALUABLE NATIVE GRASSES

OWING to seasonal and economic conditions it has been impossible to ensure regular supplies of more than one or two of our splendid native grasses. This will probably be gradually remedied with the growing realization that in her native grasses and plants Australia possesses perhaps her greatest asset.

Those interested should write for particulars of varieties available.

Farmers and graziers saving seeds in commercial quantities of any of the following are invited to communicate with us and send samples. There are several other Australian grasses of considerable merit, but seed is rarely in the market.



WALLABY GRASS

(*Danthonia*)

One of the hardiest of our native grasses. Grows in a wide variety of soils and climates. Especially adapted to the poorer soils unsuited to other grasses, splendid for sheep.

Mr. F. Turner in his work, "Australian Grasses," says of this variety.—"It grows both in the coastal districts and in the arid interior; it is one of the most nutritious grasses of Australia, and, unlike most other species of this genus, it will grow more or less all the year round. Stock of all descriptions are remarkably fond of it. The seed germinates readily after showery weather in the autumn and spring months. On good soils the roots of this grass penetrate to a great depth, which enables the plant when growing in the arid interior to withstand long spells of dry weather." The seed is very light, and a small quantity will cover a good breadth of land; we would strongly recommend that two to three pounds per acre should be added to all mixtures for any soil or climate, or up to fifteen pounds per acre alone.

MITCHELL GRASS

(*Astrebla*)

This is one of the best native grasses we have, and will yield a large amount of succulent herbage, of which stock are very fond. This grass is very nutritious, a good drought resister, and forms a permanent pasture. Requires well-drained land. Quickly responds to rainfall. If cut when it first shows the flower stem, makes excellent hay. Seed is only saved in favorable seasons and we usually offer both *Astrebla triticoides* and *Astrebla elymoides*. Sow two to three pounds per acre.

AUSTRALIAN BLUE GRASS

(*Andropogon sericeus*)

This perennial grass grows well in the coastal districts and colder portions of New South Wales, Victoria and Queensland but it is also found in other parts. It is a valuable pasture grass, and, in suitable situations, makes considerable growth in the winter, making it doubly valuable to graziers and farmers. It will also yield an amount of rich, leafy, bottom herbage in the summer months, of which cattle and sheep are very fond and will fatten on. An excellent grass, will stand close feeding well, and will continue growing during long periods of dry weather. Sow two to three pounds per acre. No supplies at present but we may have stocks later in summer.

Coolah Grass and Native Millet at our Trial Grounds.

COOLAH GRASS

(*Panicum polutum*)

An erect perennial species, found more or less in most of the Australian States, generally in good situations. It makes its growth during the summer months, stands considerable hot weather, usually keeping green well into the autumn. It thus forms a valuable pasture for our coastal and inland country, though it is not recommended for the table lands owing to the severe frosts.

The department have recently been experimenting with this grass in mixed pastures with considerable success. No supplies at present.

NATIVE MILLET

(*Panicum decompositum*)

Noted for the wonderfully quick growth it makes after rain and the weight of leafage it produces in good seasons. It is considered to be a grass well worth cultivating, and it is adaptable to a wide range of soils and climates. It is very drought resistant and of perennial character but makes its growth in the warmer months. Supplies uncertain

FLINDERS GRASS

(*Anthistiria membranacea*)

Flinders Grass is very nutritious and palatable and under average conditions is easily propagated by seed. It is a great fattening grass; it is good for temporary pasture and makes excellent hay, and even when the grass is matured and dried up stock like it and do well on it. It is worth trying to establish in our inland districts if not already found in the pastures. It also goes under the names of Barcoo Grass and Landsborough Grass

ROOT PLANTING

When only limited supplies of seed are available or where it is desired to test the value of grasses, it is worth trying to establish plots for experiment and for propagation by root division (where the nature of the root system permits).

Even if only a small quantity of seed be sown it will in a rich piece of land quickly form large clumps and these can be lifted and carefully sub-divided and replanted, say six to nine inches apart, and this course can, if desired, be repeated again and again. For full and interesting information on Native Grasses we would refer readers to Mr. E. Breakwell's new book "The Grasses and Fodder Plants of N.S.W." which we can supply at 6/- (postage 4d.)

PASTURE GRASSES.

FOUR HARDY GRASSES FOR WARM CLIMATES

THESE four varieties, but especially *Paspalum Dilatatum* and Rhodes Grass, are very extensively used in our dairying districts, while Rhodes Grass will also succeed well in many parts of our Western Country where the elevation is not great. They should be sown in the late spring, summer or early autumn when the weather and soil conditions are favourable for germination and quick growth.

RHODES GRASS

(*Chloris gayana*)

A very strong growing grass, which, rooting at every joint, soon covers a large area. About the only grass that will hold its own with *Paspalum*. Excellent for moist situations and hot climates, but succeeds well in a large range of situations and climates, except where heavy frosts are experienced. It is quick germinating after rain and makes growth rapidly and is very palatable to all stock. When well established it is remarkably drought resistant. It is very largely used for surface sowing after clearing and burning off scrub in the coastal areas, and for this purpose there is nothing better. In all the dry inland districts of Queensland Rhodes Grass is proving of the utmost value and has also been of great value in Western N.S.W., not only in mixed pastures but as a special grazing crop when planted with Lucerne, say four pounds of Rhodes and two or three pounds of Lucerne per acre. A customer near Wee Waa writes:—"Please quote Rhodes Grass. Last year's sowing stood up remarkably considering the gruelling it got with stock. I am quite satisfied that it is a beautiful grass." When sown alone six to ten pounds per acre is sufficient if good quality seed is used.

PASPALUM COMPRESSUM

(Also known as Durrington Grass or Carpet Paspalum)

A dwarf compact growing variety of *Paspalum*, proving of great value for poor sandy stretches of country where *Paspalum Dilatatum* does not do well; makes well matted roots, but is most suited for warm climates. Sow five pounds per acre.



Rhodes Grass



PASPALUM DILATATUM

(Yates' Prime "Hand-Shaken")

Does well planted in conjunction with Rhodes Grass. The seed should be sown during spring, summer, or early autumn, say from August to April. Succeeds best where moist warm conditions prevail, but will prove a very profitable crop even where a moderate rainfall is experienced, and under these latter conditions it is not so likely to become rank and difficult to deal with. Once introduced into swampy land *Paspalum* soon covers it with a thick mat and gives good grazing where the land would otherwise be useless. It is an excellent practice to sow a few pounds of Perennial Red Clover and White Clover with the *Paspalum*, as these provide feed when the latter is more or less dormant. Sow ten to twelve pounds of *Paspalum* per acre. Special quotes for large quantities.

COUCH GRASS

(*Cynodon dactylon*)

Stands heat and drought well and is specially suited for hot, dry districts where other grasses do not succeed. It is also of great value for binding loose soil, sand banks, etc. It should not be planted near cultivation paddocks, as it is difficult to eradicate. Sow in warm weather after good rains. Sow ten pounds per acre.

A SEEDING SPECIFICATION WE CAN RECOMMEND

FOR SOWING AFTER BUSH BURNS AND FOR

Permanent Pasture

The grass seed should be sown at once after burns to get advantage of the first rains. It will then come on very quickly.

Where it is preferred to sow the varieties separately, it is usual to sow the Rhodes Grass on the hills and the *Paspalum* and Clovers on the flatter and moister country.

6 lbs.	<i>Paspalum</i>
5 "	Rhodes Grass
2 "	Couch Grass
1 "	White Clover
$\frac{1}{2}$ "	Subterranean Clover
$\frac{1}{2}$ "	Red Clover

15 lbs. per acre. (Prices on application).

Where the land is good and a greater outlay per acre is permissible, we suggest that the quantities be increased to a total of 20 lbs. per acre.

PASTURE GRASSES (Continued)

THE varieties in the following list are introduced grasses which have proved to have a distinct value in the temperate parts of Australia with a good average rainfall. They can be recommended for the N.S.W. coast and tablelands and for districts with similar climatic conditions in other States. Autumn is the best time for sowing these varieties, but sowings may also be made in the spring in suitable situations if the weather be favorable.

As regards Kikuyu Grass, Elephant Grass, and Texas Blue Grass, these are distributed by roots or cuttings only, and these can be put out with advantage from early spring onwards.

TALL OAT GRASS

(*Avena elatior*)

In recent trials in our Northern districts this grass has proved very successful, and it is thought that it will become one of our leading artificial grasses for dry or sandy soils. It has a deep rooting system, which protects it against drought, and it quickly spreads when once established. It is a good winter grass and a quick grower. Stock may at first be averse to it, but when used to it eat it readily, especially if sown in mixture with other grasses. Customers are recommended to try this grass in land which is rather light in character for other artificial grasses, and we would be pleased to have reports after testing.

It withstands heat of summer and the cold of winter, starts very early in spring and continues to give good grazing over a long period. It has been grown successfully in the Departments Trials at Bathurst, Cowra, Wagga and Glen Innes. Sow 20 lbs. to 30 lbs. per acre if alone, but it is best included in mixture with other grasses.

PRAIRIE GRASS

(*Bromus unioloides*)

This is a most valuable grass particularly for the dairyman. It gives wonderful yields of fodder in suitable country and cows milk splendidly on it. It is a first-class pasture grass and also makes excellent hay. Owing to its palatability all stock are very fond of it, and as it will not stand continuous heavy grazing it should be spelled regularly, and this is well worth while owing to the extra yields thereby obtained. It grows luxuriantly during the winter providing feed when badly needed. It grows to best advantage in rather loose rich soils. Sow up to two bushels per acre.

Yates' Finest Bright Re-machined—A heavy grade plump seed of a very high percentage of germination and purity.

AWNLESS BROME GRASS

(*Bromus inermis*)

A useful pasture grass which has not been obtainable recently. We have now secured a supply and feel sure there will be many glad of the opportunity of introducing this grass into their holdings. It is a perennial grass, tall growing with root creeping habit, a native of dry regions in Europe and Asia. In America, and particularly California, it is looked on as of their hardest grasses, being most drought resistant.

It is of great palatability and very fattening. Success with this grass has been recorded at Hawkesbury, Bathurst and Glen Innes Experimental Farms, also on the Yanco Irrigation Area.

The early growth is slow and this variety is not at its best until after the first year, but will then stand heavy stocking.

Sow twenty to thirty pounds per acre alone or five pounds in mixture with other grasses. In suitable situations it will make good hay which has a high feeding value.

KIKUYU GRASS

(*Pennisetum clandestinum*)

We undoubtedly have in Kikuyu a grass of which the quality and capabilities are hardly yet realised by farmers and pastoralists. It is a native of British East Africa and is a perennial grass with a strong system of surface and underground runners. On this account it is a very quick spreading variety and also remarkably drought resistant. Mr. Breakwell (late Government Agrostologist) who is very largely responsible for the widespread interest in this grass, states that it should succeed and be profitable to grow in almost any part of N.S.W. where the rainfall is 20 inches or over. It is of particular value for poor clay or sandy soils where it is usually difficult to grow anything but weeds, though naturally the richer soils will give correspondingly better results.

The underground runners quickly root at the joints then send up fresh growth to a height of 1 ft. or 2 ft. or even more in rich localities.

Under coastal conditions it is the quickest growing grass we have, growth taking place continuously, except where frosts are experienced.

On the tableland country and throughout the slopes it will succeed well, and in Queensland also it is creating widespread interest. It will, we think, be found a useful grass in many parts of Victoria, particularly where *Paspalum* is found.

It does not seed in Australia, therefore it can only be distributed by means of rootlets which we can supply at any time from late winter on. It is recommended to plow the land, opening up furrows six feet apart, and dropping in the rootlets about every three feet. At this rate about 2500 plants will suffice for one acre. We recommend all to try this grass which comes away earlier than *Paspalum* and gives such heavy yields of very high quality fodder. It adds to the value of the pasturage and gives a more balanced ration if some of the clover family can also be introduced, and we suggest $\frac{1}{2}$ lb. White Clover or Subterranean Clover, and in more favored districts Perennial Red Clover.

COCKSFOOT

(*Dactylis glomerata*)

This is one of our most useful introduced grasses and, with Perennial Rye Grass, Fescues and one or two others, should form the bulk of all artificial pastures in the more favored coastal and tableland country. It is one of the hardest of the introduced grasses, withstanding extremes of climate to a wonderful extent. It is inclined to grow tussocky, but judicious grazing and occasionally allowing it to seed, itself down will counteract this. If sown alone one and a half bushels per acre should be ample.

Yates' Extra Heavy Re-machined—This is heavy thoroughly machine cleaned seed, which will give a good germination and a quick and even catch.

PASTURE GRASSES (Continued)

PHALARIS BULBOSA

For several years the supply of this most valuable grass has been insufficient to meet the demand, but for this season we have made special arrangements and hope to have ample supplies throughout the season.

Each year Phalaris Bulbosa is required in greater quantity as its merits become better known to farmers and graziers. It is considered by many to be a superior grass, for our conditions, to Rye Grass and Cocksfoot. It has a particular value in its ability to withstand hard cold conditions; in fact, it makes wonderful growth in the winter months. It is a grass we particularly recommend for the tableland and coastal country of N.S.W. and for similar conditions in other States. It is succulent, palatable, and a strong grower. It is deep rooting and when once established is drought resistant, and forms a splendid permanent pasture, which stands hard grazing, and is excellent for sheep. When judiciously grazed it forms a close turf.

Perhaps nowhere else in the State has such interest been taken in pasture improvement as on the Northern Tablelands north of Armidale, and practically the whole district is unanimous concerning the merits of Phalaris Bulbosa as an all the year round pasture grass for their conditions. In grazing trials over the last four years this wonderful grass has carried two and a quarter sheep per acre continuously and without any spells; and, further, these sheep grew much better and put on more weight than those on the native pasture carrying only one sheep per acre.

This grass also makes good hay if cut as soon as the flower heads are forming. About 10lbs. per acre is a reasonable sowing, and we suggest that about 2lbs. per acre of White Clover or $\frac{1}{2}$ lb. to 1lb. per acre of Subterranean Clover be included either with Phalaris alone or with Phalaris and other grasses in mixture.

PERENNIAL RYE GRASS

(*Lolium perenne*)

On those parts of our coastal and tableland country, where a high and regular rainfall may be looked for, this is one of the very best of the introduced grasses, and is a specially good winter grass for the dairy farmer. In suitable localities it is practically permanent but best results are obtained with this as with all artificial grasses by resowing at intervals of say five to ten years. Sow one and a half to two bushels per acre if used alone.

Yates' Extra Heavy Poverty Bay—Is a wonderful perennial variety saved in a dry climate and therefore much more suitable for Australian conditions than the cheaper grades generally sold which are saved in cool wet climates.

Yates' Special Old Pasture—This is the next best long lasting strain and is superior to a great deal of the Rye Grass offered.

ITALIAN RYE GRASS

(*Lolium italicum*)

This grass is only a biennial but if not grazed too closely and is allowed to seed itself (but not until after the first year) it will last for several years. It is of great value as a hay crop sown alone; with clovers or with grain sown up to two bushels per acre.

Yates' Extra Heavy Re-machined Italian—This is a first class strain, thoroughly re-cleaned, of the ordinary Italian, and has given excellent results wherever grown.

Westerwoldicum Re-machined—This is a giant variety of Italian Rye Grass and is earlier and more vigorous. Very hardy.

WIMMERA RYE GRASS

(*Lolium subulatum*)

This is a comparatively new grass and is being used with great success over a large portion of the wheat area of Victoria and Southern and South-Western N.S.W. In many ways it is similar to Italian Rye Grass, the main difference being its great drought resistance. It is an annual and will provide green feed for seven to eight months in the colder part of the year, after which, although it dries off, it is very nutritious as dry hay, the seeds remaining attached to the dry straw for a long period. After the first sowing it will seed itself down every year, even though the land be cultivated for crop, and start away again with the first good autumnal rains.

We do not recommend sowing this on first-class wheat land which is regularly cropped, as it may interfere with the growth and be a little difficult to control. But on land of lighter type which require periodical rests from cropping, or on lands which have been completely exhausted by continuous cropping, we confidently recommend it as a pasture grass of the very highest value. Sowing alone about one bushell (20-lbs.) per acre is sufficient, or if sown with the crop to provide pasturage on land which it is proposed to spell when the crop is off, as low as four pounds will probably be enough. If more is sown it may interfere with the growth of the crop.

This grass is particularly recommended for the Southern and South-Western portions of N.S.W. and in other parts of the Commonwealth where good winter rains may be expected.



A heavy growth of Phalaris Bulbosa, at Hawkesbury College.

PASTURE GRASSES (Continued)

POA PRATENSIS

(Kentucky Blue Grass)

One of the best winter grasses for dry soils, yielding a large quantity of herbage in the autumn, winter and early spring. It dies right down in the summer, but soon springs again after rain. It has a creeping habit resembling Couch, and, if once introduced, will become a permanency. The celebrated Blue Grass regions of America, so noted for their horses, take their name from this grass, which forms the bulk of the pastures there. As this grass is very delicate, and easily burnt up while in its younger stage, we recommend that it be sown in the early autumn only.

TEXAS BLUE GRASS

(*Poa arachnifera*)

This grass proved itself to be a drought resister of great merit. Best suited to light and sandy soils, roots planted a foot apart will soon cover the whole area. Valuable for cattle, stands heavy stocking. This grass can only be supplied in roots.



Agri. Dept. Photo.

ELEPHANT GRASS

(*Pennisetum purpureum*)

Although not strictly speaking a pasture grass, this recent introduction has proved to be a valuable acquisition and a fodder plant of considerable value. It will be noted from the photograph, reproduced herewith, that this is a vigorous growing plant, attaining a height of 12 to 15 feet. It stands cutting well, tests made by the Department of Agriculture showing a return of 50 tons and more of green fodder per acre per year, and also that this grass is of good feeding quality and that stock relish it, especially if not allowed to get too high and coarse. It may be either grazed or cut, and shows a very satisfactory food value by analysis. Milk yield and tests are well maintained. Elephant Grass is adapted to a wide variety of soils and climates and might well be tried out by progressive farmers, even if only on their poorer land. The cuttings should be planted three feet apart in and between the rows.

TALL FESCUE

(*Festuca elatior arundinacea*)

This grass has proved to be a distinctly valuable one, especially for poor land in our coastal districts. While it has not the feeding quality of, and is not relished by stock like, Rye Grass, Prairie and Cocksfoot (we do not recommend it for land which will grow these grasses), it stands drought and hardship better, keeping green when other grasses are burnt up, and affording excellent grazing when the sweeter grasses either will not succeed or are shrivelled up. We would recommend a proportion of this in all mixtures for poor, dry, or hilly land.

CHEWING'S FESCUE

A variety of Hard Fescue, which has been grown in New Zealand with success on poor, light, as well as heavier lands; it has formed a good sward where no other grass would succeed. It stands drought well, as its strong roots penetrate deeply into the ground. It is permanent and throws up a large amount of feed in the early spring, particularly good for sheep. We would recommend that a little of this grass be included in all mixtures for permanent pasture, or, if planted alone, allow fifteen pounds per acre.

MEADOW FESCUE

(*Festuca pratensis*)

An excellent grass for elevated districts and in good soils. Should be included in all mixtures, except for very dry soils. It is relished by all stock and makes excellent hay. It is perennial, early and nutritious.

AGROSTIS

These grasses are used fairly largely for lawns, golf greens, etc., and their value for pasturage is low except in cold, harsh situations. We stock—*A. canina* (Brown Top); *A. vulgaris* (Red Top); and *A. stolonifera* or *alba* (Creeping, Bent or Fiorin).

TEFF GRASS

(*Eragrostis abyssinica*)

An annual summer growing grass in very great favour in South Africa especially where summer rains are prevalent. Its rate of growth is astonishing and it may be cut twice or more during the season if sown early. Under good conditions it supplies excellent summer grazing and makes very fine hay. Sow 6 lbs. to 8 lbs. per acre broadcast. For Australian conditions we think Sudan Grass will give better results, and we only recommend trials of Teff Grass where there are ample summer rains. It must be re-sown every year.

POA AQUATICA

(Water Meadow Grass)

This is used rather extensively on marshy land and swamps in Gippsland. The plant is fairly nutritious but rather coarse. We can usually supply root stocks.

OTHER GRASSES

We also stock the following, which, however, are of minor importance except for special situations or purposes. *Timothy*, *Poa Trivialis*, *Poa Nemoralis*, *Meadow Fox Tail*, *Crested Dogs Tail*, *Yorkshire Fog*, *Rib Grass* or *Lambs Tongue*.

CLOVERS

A short description of some of the leading varieties of a wonderful family of plants which do much for the Agriculturist—feed his stock—improve his land—and increase the subsequent crops.



Farmers, especially those in areas where a fair rainfall is experienced, are realizing more and more the great value of the Clovers as **Soil-renovators**, as well as fodder crops of the highest quality, either alone, in pasture, or sown with other green stuff or hay crops.

For renovating worn-out land, and for keeping valuable farming land in proper condition, nothing will do more good than the Clover family (or if preferred other legumes, such as Field Peas, Field Lupins and Soy Beans, and in warm climates Cow Peas). They take little out of the soil but add a most valuable manure in the form of nitrogen, which is gathered from the atmosphere. When the crop is ploughed in the nitrogen is made available, while the foliage, stems and roots, form necessary "humus," which gives "life" to the land.

The addition of one or other of the Clovers, when laying down pastures or sowing greenstuff or hay crops, will provide a much **better balanced ration** of which stock are very fond; and when the crop is done the Clover will often give a good picking for a considerable period, afterwards being ploughed in for **green manure**.

Clovers succeed best in good "sweet" land and usually respond well to superphosphate. Sow 12lbs. to 15lbs. per acre alone, or if with pasture grasses 2lbs. to 3lbs. per acre.

Generally speaking, Clovers should be sown in the autumn, but in good seasons successful results can be obtained from spring sowing.

YATES' A.Y. SUPERFINE WHITE CLOVER

(*Trifolium repens*)

This is used perhaps more than any other for sowing down with Pasture Grasses. It spreads quickly, especially in moist situations. Widely used on the North Coast of N.S.W. in Paspalum and Rhodes Grass Pastures, giving a splendid pick during the winter when these two grasses are more or less dormant. Succeeds in a wide variety of soils and climates.

YATES' ENGLISH WILD WHITE CLOVER

A hardier and more lasting strain than the ordinary White Clover; its root action is stronger, and it is of dwarfer and denser growth, and of more rapid creeping habit. Our seed is saved from long-established English pastures, and we recommend a little with all grass seed mixtures.

YATES' SUPERFINE N.Z. PERENNIAL RED CLOVER (or Cow Grass)

(*Trifolium pratense perenne*)

Succeeds best in the cooler tableland country, as it requires a fairly consistent rainfall. It is a vigorous grower, and splendid for milk production; under suitable conditions it will last several years. Recommended for sowing with Oats or in pasture with Paspalum or other grasses.

TRIFOLIUM INCARNATUM (or Crimson Clover)

This is an annual, a quick grower, and will stand a great deal of hard grazing. It is useful as a stubble plant sown alone or with Rye Grass after the grain crop, when it will produce a heavy crop very early the following spring.

BERSEEM (or Egyptian Clover)

(*Trifolium Alexandrinum*)

An annual Clover which **must be sown in early autumn**, as it makes its growth during the autumn, winter and early spring months. Sown in early autumn in a favorable locality, it will give two and even three cuttings of valuable Lucerne-like greenstuff during the winter and early spring. It can also be sown in the autumn with Oats, and after being grazed for a time it can be cut in the spring with the Oats for hay.

CLOVERS (Continued)

SUBTERRANEAN CLOVER

See next page.

ALSYKE

(*Trifolium hybridum*)

Combines to some extent the qualities of Red Clover and White Clover. It will sometimes succeed where Red Clover does no good, and can be classed as permanent in suitable locations.

STRAWBERRY CLOVER

(*Trifolium fragiferum*)

An excellent variety for low, wet, swampy land subject to floods or inundations through the backing up of tide water. This plant has a trailing habit, and thrives where no other Clovers and very few Grasses will grow; in our opinion, it should be associated with Water Couch. If one pound or so per acre is sown in suitable situations it will very soon spread. It is very largely grown in portions of Gippsland, where the land is swampy, and is found to be very fattening. Cattle do particularly well on it.

SHEARMAN'S CLOVER—Similar to the above and probably a variation; root only of this variety; supplies very doubtful.

ENGLISH TREFOIL

(*Medicago lupulina*)

An annual Clover succeeding in light dry soils, greedily eaten by sheep. It has good bold seed.

LOTUS (Varieties)

LOTUS CORNICULATUS (Birdsfoot Trefoil)—A deep rooting perennial Clover maturing the second year, and producing a large quantity of leafage.

LOTUS MAJOR—Land that requires draining can often be improved with this Clover.

LOTUS ANGUSTISSIMUS—A hardy Clover which does well in rough country and should be very suitable for sowing on burns.



BOKHARA CLOVER (or White Sweet Clover)

(*Melilotus alba*).

This is a clover with a big reputation for renovating land for green manuring and for preparing land for the introduction of lucerne. The plant makes very big root growth and, being a biennial, the plant dies out after the second year and the big root growth rots down very quickly.

Bokhara can be grazed profitably by all classes of stock, the fodder value, by analysis, being extremely high. There is practically no danger of bloat with this Clover and it is a great milk producer. It is also an excellent honey plant.

If used as a rotation crop it can be ploughed in either the first or second year according to circumstances. Seeding does not take place until the second year, and so long as this is prevented there is no danger of the plant getting out of control.

This plant should not be grown in wheat paddocks. Sow 8 lbs. to 10 lbs. per acre broadcast, or 5 lbs. in drills.

MEDICAGO ORBICULARIS

(Burrless or Button Trefoil)

This is a variety of Trefoil Clover which has attracted attention in Tamworth and other Northern districts. It is very similar in its growth and appearance to our Native Trefoil or Burr Clover, but the seed is not enclosed in a burr; this is manifestly a great advantage to wool growers. It is an annual, but seeds itself so profusely that it comes up every spring, and is permanent when once introduced.

MEDICAGO DENTICULATA

(Burr or "Native" Trefoil)

This is an introduced member of the Clover family, but has become so widespread that it has earned the title of "Native." It is now one of the commonest plants in N.S.W. and furnishes a tremendous amount of feed. It grows with the first good autumn rains, giving a heavy yield of lush green fodder throughout the winter and spring. With the approach of summer the plant ripens off and the seed, falling on the ground, then forms a most valuable and highly concentrated food. This the sheep will lick up from the ground and do well on it. Country that grows this Trefoil is essentially fattening country. The burrs are a great disadvantage in purely wool growing country.



Subterranean Clover (Trifolium subterraneum)

This wonderful Clover has long been known in Southern European countries, where it is looked on as a weed. The credit for introducing it and proving its value in the Commonwealth belong to South Australian farmers, who have been working on it for some 45 years.

Briefly, the plant may be described as a prostrate growing annual, which is covered all over with fairly long, soft hairs. The flowers are formed in clusters of three or four and are a creamy to pinkish color. Immediately after flowering the flower clusters grow downwards until the seed head is pushed below the surface of the soil, where it becomes "anchored". It is from this peculiar habit that this Clover derives its name Subterranean.

The growing period in favorable districts is six months or more, the seeds germinating with the first good autumn rains in April-May. During the winter the plants make slow but steady progress, but with the first warm touch of spring they burst into rapid luxuriant growth, which continues until really hot weather starts.

This Clover seems able to adapt itself to almost all types of soil with suitable rainfall conditions with one provision, viz., that it has a plentiful supply of phosphoric acid. We cannot stress too greatly the importance of phosphatic manures in connection with this Clover, and in our opinion no commercial crop responds so readily to liberal applications of such manures. All fertilisers for this crop should be applied in the autumn, if possible before the first rains.

The seed should be sown after the first autumn rains which are sufficiently heavy to germinate them. To establish Subterranean Clover properly the first year, at least six pounds per acre should be sown if the land has been thoroughly prepared, and even up to ten pounds will probably give best results. On lighter land and where it

is to be sown with a cereal crop, down to two pounds will probably be sufficient.

We are convinced that Subterranean Clover will play a most important part in farming practice in a great many parts of this State. Where soil and seasonal conditions are favorable this Clover will produce more high-class fodder than almost any other plant.

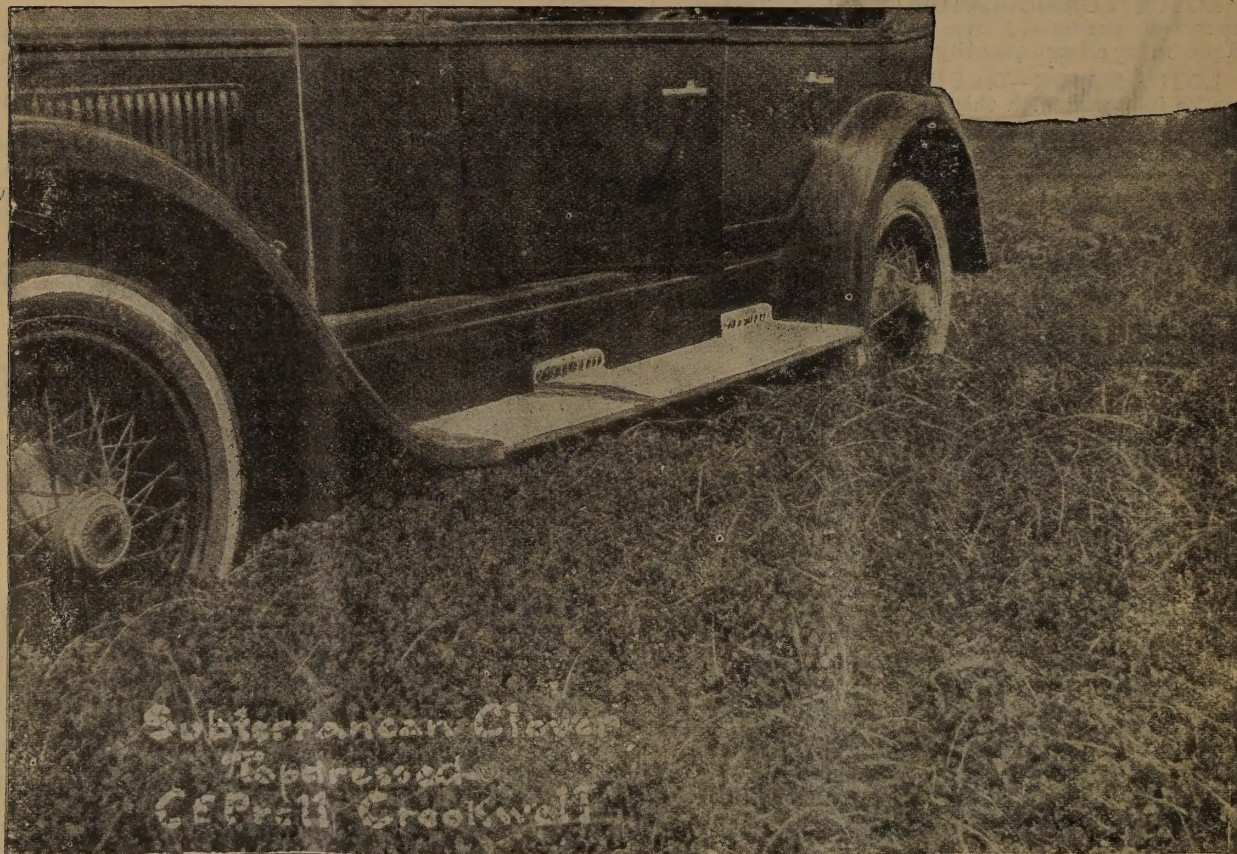
Being a legume it is of great value as a soil improver and for this reason, and for the reason that it flourishes under such varying conditions, we believe that it will be sown on a great deal of second-class land to the great benefit of the soil, and resulting in bigger returns to the land holder.

Another quality which should not be overlooked is its propensity for choking out undesirable weed growth. Particularly is this noticeable in the case of sour, sorrel growing country, it being amply proved that Subterranean Clover, in conjunction with a liberal dressing of phosphatic manure, will absolutely "wipe" out this and similar weeds and provide in their stead a pasture which it would be hard to better.

It is exceedingly nutritious in any form, either green, or as hay, or as dry feed in the paddock. It produces enormous quantities of seed which are relished and picked up by stock, just as they do the seed of ordinary burr trefoil. One of the greatest advantages of this Clover over the ordinary burr trefoil, from a sheepman's point of view, is that the seed is not enclosed in a hooked burr and will not become attached to wool.

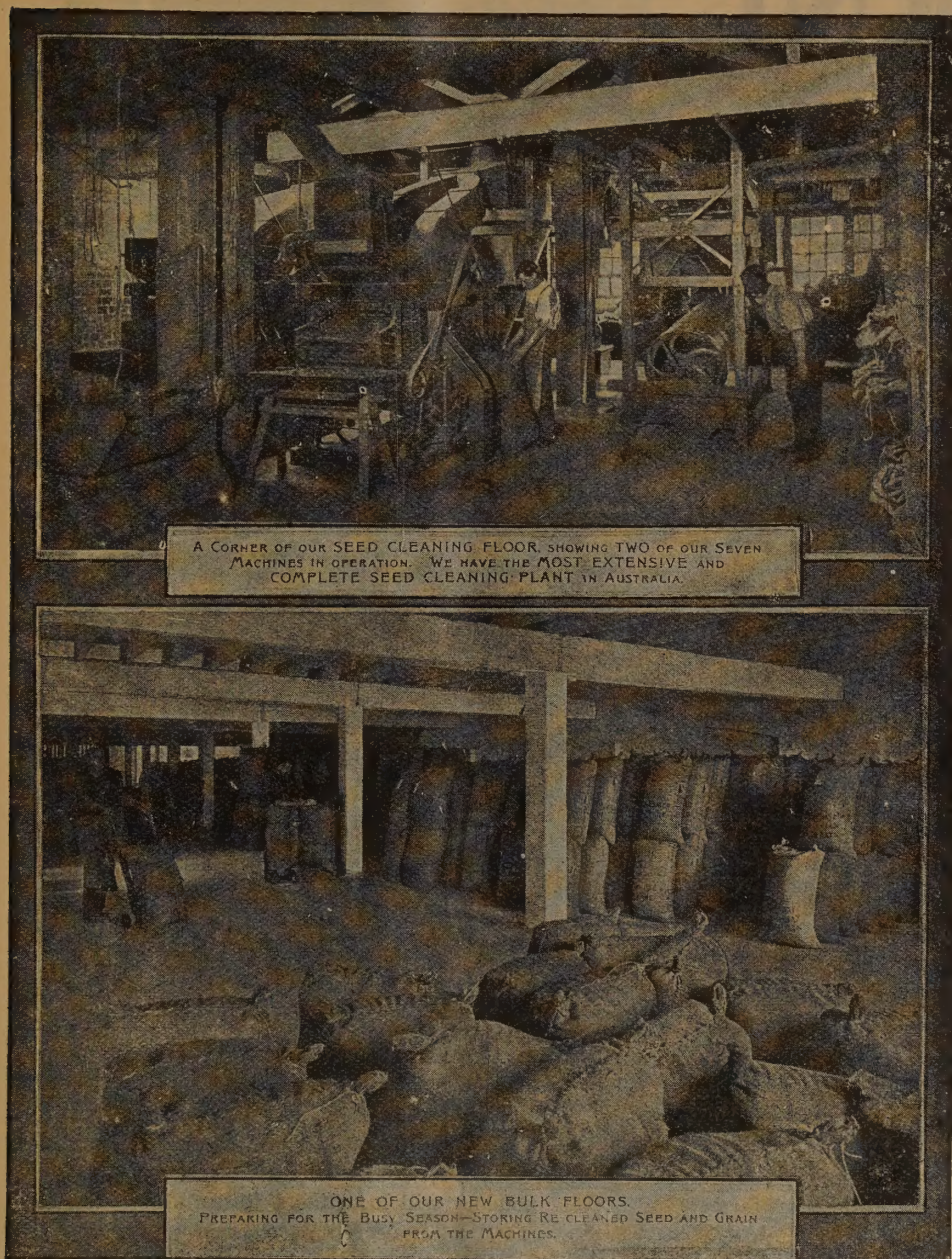
When sowing down pasture mixtures it is undoubtedly good policy to include some of this Clover, say half to one pound. It should do well in this State in all parts of our coast and tablelands, and parts of the Western Slopes where the rainfall exceeds twenty inches per annum.

Order January-February for Sowing with first good Autumn rains.



A FINE PASTURE OF SUBTERRANEAN CLOVER AND GRASSES. Note the heavy luscious growth

Modern Methods of Seed Cleaning.



A CORNER OF OUR SEED CLEANING FLOOR, SHOWING TWO OF OUR SEVEN MACHINES IN OPERATION. WE HAVE THE MOST EXTENSIVE AND COMPLETE SEED CLEANING PLANT IN AUSTRALIA.

ONE OF OUR NEW BULK FLOORS. PREPARING FOR THE BUSY SEASON—STORING RE-CLEANED SEED AND GRAIN FROM THE MACHINES.

The top picture shows but a small corner of one of our cleaning floors. We have built up in our own warehouse what is undoubtedly the largest and most complete plant in Australia for the cleaning and dressing of Seed; much of this is of our own design and therefore particularly suited to our purposes.

The proportion of farmers who realize the folly of sowing unmachined farm seeds is now very high and is ever increasing, and in consequence of this we are continually adding to and improving our plant to cope with the demand.

At the time of writing a member of our firm is in America and he will investigate the question of Seed Cleaning as practised there.

We expect to instal early next year an additional and an entirely new type of machine which in conjunction with the present machines will make possible still greater strides in eliminating weed seeds and foreign matter.

BUSHEL WEIGHTS.

We show herewith the weights per bushel as standardised under the N.S.W. Weights and Measures Act. Many of the lines mentioned (such as Clovers and some of the Grasses) are not usually priced or sold by the bushel, but in all cases where customers order bushel weights we will reckon the number of pounds to the bushel as stated herewith.

	lbs. per bus.
BEANS ...	60
BARLEY ...	50
BROOM MILLET	50
BUCKWHEAT ...	50
CLOVER:	
Red or White	20
GRASSES:	
Couch	20
Cocksfoot	
Paspalum	
Rib and Rye	
HUNGARIAN	
MILLET ...	60
LUCERNE ...	20
MAIZE ...	56
OATS ...	40
PEAS ...	60
RYE CORN ...	60
SORGHUM ...	60
TARES or	
VETCHES ...	60
WHEAT (Seed)...	60

We have at present seven complete series of machines all electrically driven and occupying some 6,000 square feet of floor space. They have a capacity of 18 to 20 tons of cleaned seed per day and for the greater part of the year the whole plant is working at full pressure.

The main principles employed in modern Seed Cleaning are.—Revolving Cyclinders, Wind Blast, Surface Attraction (e.g., Velvet Rollers), Brushing. Each of these methods serves a particular purpose, but it is the continuation and the co-relation of two or more that mean clean samples, and it is here that skill and long experience count.

All this machinery and our long experience is at your service for a small extra charge over what must be paid for rough dressed Seed. Is it not worth it?

Mr. W. G.—Jungguoy, Ravenshoe, Queensland, 3/8/25.

Dear Sirs—The White Maize Seed (Hickory King) supplied to my late neighbour, Mr. J. Matthews, of Stoney Batter, yielded the best crop of Maize ever grown in this district. I find that the cockatoos do not touch this White Maize, although they were very severe on the Yellow Maize crops about.

LUCERNE

THE KING OF FODDER CROPS

"The crop that gives a continual harvest without an annual ploughing or seeding."

YEAR by year this King of Fodder Crops is proving its adaptability to varying situations, soils and climates.

At one time it was thought that it would be a sheer waste of seed to sow anywhere but on choice alluvial flats; but now we find Lucerne extensively grown on **ordinary good agricultural land** and even on **hilly upland country**. Of course it is not suggested that such heavy growths or so many cuts in the season occur on the hilly land as are produced on typical Lucerne flats, but even where Lucerne does only moderately well **there is no other crop to compare with it.**

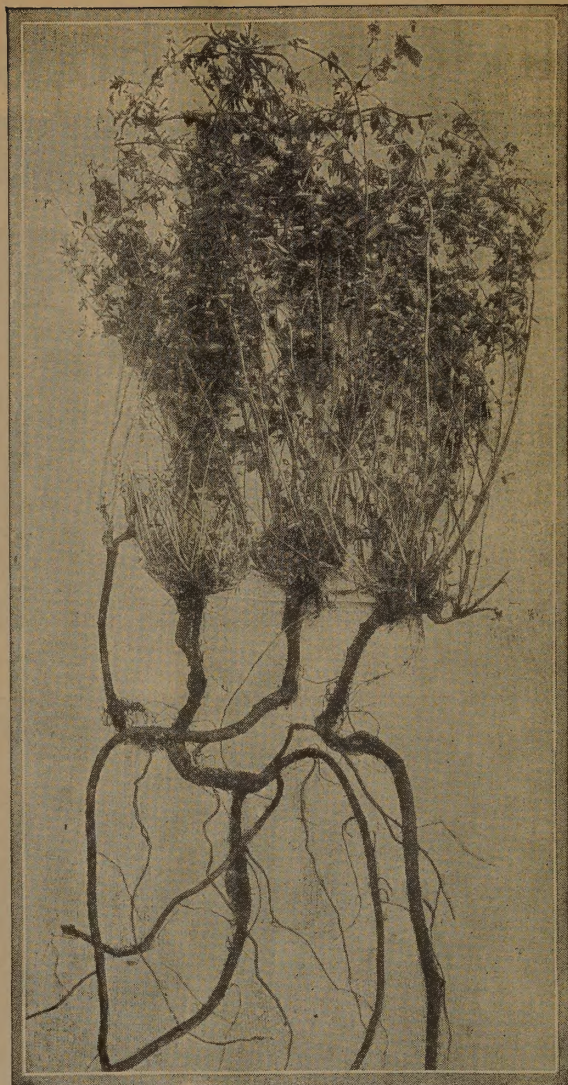
Many of our coastal dairying districts are capable of growing good Lucerne.

Its great value for milk production, for hay crop, for grazing and for poultry, makes Lucerne of almost universal interest, and it is worth while for every farmer to find out for himself if Lucerne will succeed on part of his holding.

The point we would emphasise here is that the "range of adaptability" of Lucerne, once considered limited, has now been proved to include soils and conditions ranging from rich alluvial flats—where one may reckon on five, six, or even more cuts per annum for ten years or so—to any reasonably deep good agricultural land with a rainfall of say 20 inches or over, where good "grazing" Lucerne can be successfully grown, giving the land a much heavier carrying capacity and a wonderfully quick "shoot" after rain.

In years to come we think that Lucerne will be equally valued by Australian farmers for the wonderful grazing it affords as for its hay making qualities. The amount of suitable land for growing continuous heavy crops of hay is limited as is also the available labor for hay making and the ready market for Lucerne Hay, but there are thousands of square miles suitable for growing grazing Lucerne, and which would give one good cutting of hay per year if required, and during the remainder carry three to four times the sheep per acre as compared with the natural grass or herbage, and would fatten them at the same time; for lambing ewes or for topping off lambs or grown sheep nothing can equal Lucerne. Some farmers believe that Lucerne will not stand grazing, they have seen Lucerne paddocks eaten out in times of drought, when it was the only green feed available, and were thus greatly overstocked. Of course, no perennial plant will stand continuous overstocking, but it is wonderful the amount of stock Lucerne will carry even in dry seasons if it is properly managed. Lucerne should not be continuously grazed heavily, but if it is allowed to grow till it begins to flower, or as near that stage as possible, then it can be heavily stocked and eaten right down; this process can be repeated several times in a season, and if there are three or four separate paddocks in Lucerne they will afford constant grazing. During the winter, however, provided the heart of the plant is not eaten out, Lucerne can be fairly continuously grazed. If a spring tooth cultivator is put over the land occasionally and the surface torn up, the response in the extra growth of Lucerne will be beyond belief.

This course should be followed at least once each year, preferably in the early spring before the Lucerne commences to grow, but a second cultivating in the late summer will well repay its cost. Providing the cultivator tines are



sharp pointed no fear need be entertained about putting the machine well down into the ground. The strong roots stand a deal of knocking about. The sharp pointed tines slip past the tap roots and do not cut them off completely. We strongly recommend cultivating both ways up to six inches deep. A dressing of one cwt. of superphosphate per acre each year will add wonderfully to the yield and encourage quick growth.

The paddock will look like a fresh fallow when the cultivator has done its work, but, within a week, if there is any moisture in the soil at all the fresh shoot will show through and in a fortnight a strong succulent growth will be evident. If this is a spring growth, allow it to come just to the beginning of the flowering stage and then cut for hay. If you have cultivated in the early autumn the resultant growth can be grazed during the winter as described. The great importance of a late winter or early spring cultivation is two-fold. Firstly, the growth is stimulated remarkably; secondly the ground is cleared of thistles, barley grass and trefoil, and your early summer crop of hay will be a clean one. It is always advisable to let the Lucerne grow to maturity once each year, that is to the flowering stage. The spring crop is the best, and this can profitably be made into hay. Even if there is no immediate use or market for it an accumulation of Lucerne Hay is a reserve against times of drought and scarcity that will come in most opportunely sooner or later. One of the great advantages of Lucerne Hay if protected from the rain is, that it does not deteriorate by age or by the ravages of vermin.

(Continued next page)

YATES BROADLEAF A.Y. GIANT-UPRIGHT LUCERNE

(Continued from previous page)

Grazing Lucerne will do well on any country, hilly or flat, provided the following conditions are fulfilled: The plant is essentially a deep rooter and a lover of moisture. But so hardy is its nature that it is capable of penetrating to great depths in search of moisture. In most country, with a fair average rainfall, say, from twenty inches, soil of the right type for Lucerne retains its moisture through most dry spells at a depth Lucerne is capable of reaching. This will not necessarily be enough to cause growth, but the plant will remain in a semi-dormant state and will respond at once to any shower of rain. But the Lucerne tap root must be able to get down, therefore very shallow soils with a stiff-clay close to the surface are not suitable for this crop. The soil besides being reasonably deep must also be "sweet," it must not be deficient in lime. Most of the soils west of the dividing range in New South Wales are "sweet" enough for Lucerne. Some of the coastal soils are not "sweet" in the sense that they are deficient in lime. Such soils can be made to grow Lucerne well by top dressing with lime. This has been proved at Exeter.

Suitable hilly land if planted with Lucerne will carry four to six sheep per acre for the greater part of the year. Rich moist creek or river flats will of course carry much more, but we consider such land more suitable for hay; stock should only be grazed on alluvial land when it is dry and the Lucerne reaching maturity, otherwise the surface will be trodden hard and the plants injured. Cattle, par-

ticularly dairy cows and working bullocks, as these are usually hungry and eat greedily, are apt to become blown or hoven if grazed on young succulent Lucerne, especially if it is damp with rain or dew; it is found however on the dairy farm at Exeter, N.S.W., that a few acres of Lucerne, which were planted about ten years ago, is the most valuable grazing area on the estate; the cows after milking are put on to this patch for an hour or so in suitable weather only, and when this care is exercised no cows are lost and the milk yield is very largely increased. Treated in this way there is no outlay for hay making, while the full benefit of the enormous yield of Lucerne is obtained. This Lucerne paddock is regularly spring-toothed at the end of each winter, and every year it is dressed alternately with superphosphate or air slaked lime. This paddock is on the top of a rich volcanic hill, the soil is chocolate and very deep. When cattle are continuously grazed on Lucerne they are no more subject to blowing than they would be on trefoil and other leguminous herbage common in the western districts of New South Wales, but care is required that the cattle are not hungry when they are first put on to the Lucerne or any other clover, especially in damp weather or when the plant is wet with dew. As compared with the native clovers, Lucerne has the very great advantage of growing during the summer and early autumn when the wild herbage and trefoil is burnt up and green fodder is usually not available.

YATES BROADLEAF A.Y. GIANT-UPRIGHT LUCERNE

YATES' BROADLEAF A.Y. GIANT-UPRIGHT LUCERNE in sealed bags is re-machined and tested seed of extra prime quality of a superior type of N.S.W. grown Lucerne, which is sown on selected farms in those districts in which, owing to special natural conditions, there has been evolved a long standing drought resisting strain, which has proved itself for Australian conditions.

Most of these farms have supplied the seed crop to us for many years past, and we know that it is of the true Broadleaf Giant Upright pedigree.

YATES' BROADLEAF A.Y. GIANT-UPRIGHT LUCERNE is supplied through our country agents in 25 lbs. and 50 lbs. net sealed bags, printed with our own brand, or will be supplied direct to farmers in whatever quantities required. Growers should exercise caution, and accept only packages closed with our metal seal, and branded as above.

WRITE FOR PRICES, STATING QUANTITY REQUIRED.

Up to fifteen pounds per acre is a fair sowing for the best situations with a moist subsoil if sown broadcast; or eight to twelve pounds if drilled. In dry areas as low as six pounds is found sufficient.

WE HAVE JUST PUBLISHED
A NEW AND ENLARGED
EDITION OF
YATES' FREE BOOKLET

on LUCERNE
GROWING.

Write for a copy, it will give
you much information.

Mr. E. W. H. ———, Tarcutta Road,
Via Wagga Wagga, 17/7/25

"I have been getting small lots of Lucerne Seed from your firm for years, and I have had great success with it; some of my neighbours have been buying local Seed, and they are a failure."



A typical stand of cutting Lucerne on rich alluvial flats. During a large part of the year this is cut every four to six weeks.

LEGUMINOUS CROPS.

While all these crops are of very great value as feedstuffs in some form or other, they have the additional advantage of being the best of "Soil Renovators" and increasing the fertility of the soil. Their value for rotation, also for green manure, can hardly be overestimated

COW PEAS

Cow Peas form perhaps the most valuable crop for green soiling that we have for the coastal and warm parts of this country. They are extensively used for this purpose in the sugar fields of Queensland and will doubtless form the main legume for the crop rotation now being found so necessary in connection with maize growing, especially on our North Coast. Cow Peas make excellent pasture, fine hay and splendid ensilage (especially in conjunction with other green crops), and as well as all this do more than almost any other crop to improve the soil. The Cow Pea is an annual making its whole growth during the summer months. In general appearance, habit of growth and character, and composition of seeds, it resembles fairly closely the ordinary Kidney Bean. We urge farmers to consider the advantages of sowing Cow Peas with Maize, Sorghums and Millets, either for green fodder or ensilage. Not only will the combined crop make a better balanced ration, but the total yield will be increased and also the condition of the land improved. Sow in spring after frost is over in drills 3 ft. apart and drop peas at intervals of 9 to 12 inches in the drills. Sown in this manner 10 lbs. of seed should well cover an acre, broadcast $\frac{1}{2}$ to 1 bus. of seed is required. Supplies of Cow Peas owing to difficulty of harvesting are always uncertain, and prices vary considerably. We expect to have Black Seeded, but supplies of Clay Colored are very doubtful.

SOY BEANS

The Soy Bean is an upright annual, growing two to three feet high. Immense areas of this crop are grown in U.S.A. and we feel sure that it will be largely used in the future in this country in those districts which are a little too cold for Cow Peas. Besides its green manuring value the Soy Bean gives good green fodder, makes excellent hay (fully equal to Clover or Lucerne) and is a fine silage plant, especially if grown in conjunction with Maize, etc. For pig growers the crop will prove most profitable, as the seeds are produced very freely, contain a very high percentage of protein, and an extraordinarily high percentage of fat. In this respect it is unlike any other legume except the peanut. The N.S.W. Department of Agriculture recommend this crop especially as an emergency hay crop in our Tableland districts. It should be cut when the seeds are about half developed. It is sometimes difficult to get a good stand where they have not been grown before and we suggest those interested should try small plots for experimental purposes. Sow the seed about three to the foot in shallow drills two-and-a-half feet apart after danger of frost is over. We can supply Mammoth Yellow, Wilson's Early Black and Tarheel Black, three of the best varieties. Particulars on application.

VELVET BEANS

A valuable plant for moist warm climates such as the North Coast of N.S.W. and the Coastal districts of Queensland.

When conditions are suitable it is the rankest grower and heaviest yielder of any of the legumes. As a soil renovator it is excellent, but it will be valued even more for the magnificent grazing it affords and for the high feed value of the Beans. It is also recommended as a very suitable crop to sow with maize either for grazing or for ensilage, in this case the Beans should be sown about a month later than the maize. If sown alone plant in rows four feet apart and about 18 inches between the seeds, or two or three seeds in hills four feet apart in rows five feet apart.

We expect to have limited supplies of the following:—

Speckled Velvet Beans—One of the earliest sorts and therefore suitable for the lower coastal districts, especially for forage and soil improvement.

Osceola Velvet Beans—Another early sort with large pods and very vigorous. Comparatively free of furze on the pods.

Bunch Velvet Beans—Of less vining habit than the other varieties and rather later. A good sort for growing with Maize.



LEGUMINOUS CROPS (Continued)

MARKET PEAS and BEANS

(See Market Garden Crops page 28)

FIELD PEAS

This is a crop which we consider does not receive the attention it deserves. It is an excellent fodder for sheep, pigs and other stock, but we think its main value is when grown as a combined "legume-cereal crop." For this purpose Field Peas are excellent sown with oats or wheat. If sown early with oats they can be grazed off once or twice during the winter and then let go dry for hay. The addition of the pea straw to the oaten hay makes a much more balanced ration and is very palatable to stock.

If sown alone they may be grown for topping off to maturity and when cut fed to pigs, or they may be cut green, just after flowering, for cattle or pig feed.

This crop is classed among the best of the soil improving crops. Even if only the roots are ploughed in the soil is greatly enriched.

Field Peas though not so hardy as Tares or Vetches are earlier maturing, usually cheaper in price, and one grower reports that when grown with a cereal it will stand the trampling of grazing cattle better than will Tares under similar conditions. Field Peas can be sown in the autumn or spring, but in mild districts we prefer autumn sowing.

Sown alone $1\frac{1}{2}$ to 2 bushels per acre broadcast, or say 30 lbs. in drills 2 feet apart.

Sown with cereal crop try $\frac{3}{4}$ bushel Field Peas with $1\frac{1}{2}$ bushel oats or wheat per acre.

We usually stock the Grey, Blue, and Dun varieties of Field Pea, the Grey and the Dun being perhaps the most popular.

PEANUTS

As well as being in great demand for human consumption, the Peanut is being increasingly used as a stock fodder, especially for pigs. They will succeed best in a warm climate in a light open soil. Sow thirty to forty pounds of nuts, or say ten pounds shelled seed per acre. When ripe, lift the plants and harvest the nuts which are produced below the ground. The Peanut plant may be grazed, the tops made into hay, or used as a soil renovator; and is valuable as a dry farming crop. We usually have in stock supplies of tested growth of the small podded local grown variety and the large podded North China nut. Customers are asked to state their preference when ordering.

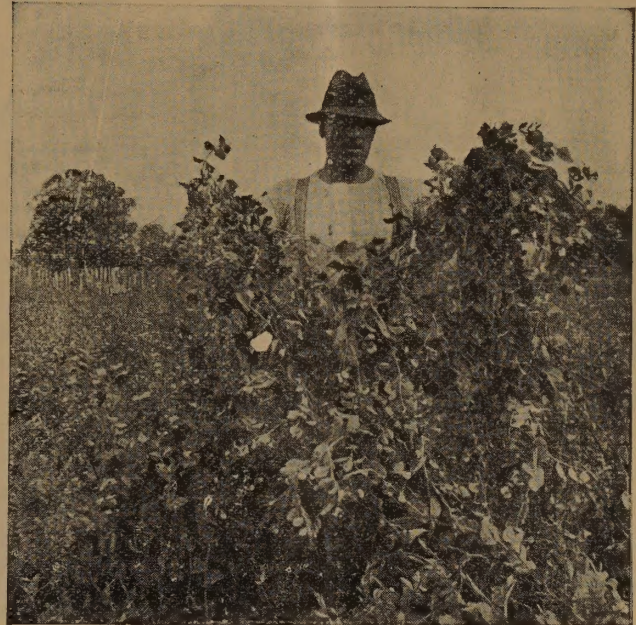
TARES or VETCHES

Grey, Black, and Golden

These are important members of the legume family, and are largely grown both for fodder and as a winter green manure. In both cases it is preferable to sow in conjunction with a cereal crop, though they may be used alone as green manure. When used for feed the combination of legume and cereal gives a well balanced ration, and the upright growth of the cereal supports the Tare, which is a climbing or trailing plant. Cows milk well on Tares and it is an excellent fattening crop for pigs.

In some of the North Coast Districts this crop, either alone or in combination with Rye, Oats, or Barley, is sown on the Maize flats, fed off during the winter, and in the spring the residue ploughed in for green manure.

Not only does this provide excellent winter fodder, but it also maintains the fertility of the flats, thus giving better yields in the succeeding crop.



Grey Field Peas, North Coast, N.S.W.

In order to encourage a quick and heavy growth, we advise the application of Superphosphate with this crop.

Tares succeed in a wide variety of soil and districts, so long as there is a good winter rainfall. Seed should be sown in early autumn from February onwards.

We would suggest a sowing of from $\frac{1}{2}$ bush. to 1 bush. Tares with a bushel or half-bushel of Oats, Rye, or Barley (or a mixture of the three).

The ratio will vary according as the main crop is intended to be the cereal or the legume. The Department of Agriculture recommend 30lbs. Tares with a bushel of grain. The seed can be mixed and broadcasted, or it can be drilled in.

If sown alone up to 2 bushels per acre is ample.

ANNUAL BLUE LUPINS

For green manuring these provide one of the best crops for ploughing in especially in our cooler districts. When practicable we recommend autumn sowing, but they will succeed if sown in early spring. Lupins grow very rapidly and produce an immense amount of top. Sow at the rate of 2 bus. per acre. For small trials 3 lbs. will sow an area of 100 square yards (10 yds. x 10 yds.)

HORSE or TICK BEANS

Somewhat similar in appearance of plant and habit of growth to the garden Broad Bean. They are grown in cool climates for the seeds which form excellent foodstuff. When well harvested the haulm also makes useful fodder. Sow about two bushels per acre in the autumn and early winter.

KUDZU VINE

(Pueraria Thunbergiana)

We have had several enquiries for this. It is a perennial legume best adapted for poor soils near the coast. We can only supply in packets, and recommend that the seeds be sown in a good patch. The plants will quickly grow and send out long runners which root at every joint. These can then be severed and transplanted, and the required area thus quickly covered. Packets 1/-

SEED MAIZE

SELECTED AND SPECIALLY RE-GRADED SAMPLES



MAIZE is a summer crop of the utmost importance in all districts where a reasonable fall of summer rains can be counted on. Even where the summers are usually on the dry side, Maize can be successfully grown if sown in drills and carefully and regularly cultivated.

In cool districts where maize will not ripen, it is still a most valuable green fodder for early autumn use. We strongly recommend sowing in drills, even when only needed for green fodder or ensilage.

The extra weight of crop from a paddock of green Maize sown in drills and cultivated will more than repay the extra cost of labor. Should the season turn dry a fair yield would result from cultivated Maize, whereas the broadcasted crop might be a failure.

By sowing the early maturing varieties it is possible to harvest a crop of grain in districts where the later maturing sorts will not ripen. The best time for sowing Maizes varies somewhat in the different districts. For green crop or ensilage, Maize can usually be sown a month or so later than would be necessary for a grain crop.

As the majority of our customers will require seed Maize for green crop we would advise them not to overlook the White Grained varieties as, generally, besides yielding a heavier grain crop than the Yellow sorts of the same class, they are all exceptionally good green crop Maizes, producing a heavy leafy succulent growth.

Sow eight to twelve pounds per acre in drills for grain, and one bushel to one-and-a-half bushel broadcast for green feed. Prime samples are again very scarce this year and prices are rather higher than usual. But in view of the really small quantity of seed required per acre this should not be considered, and farmers in their own interests should not begrudge the small extra cost of graded samples.

Early Morn—Exceptionally early, recommended for cold districts or very hot dry districts where earliness is essential.

Ninety Day—An early flint. A good early green crop variety. Supplies will be late this year.

Small Early Leaming—An early green crop Maize. We have the red grained variety.

Small Early Red Hogan—A fine early green crop variety.

Silvermine—Earliest white, grain deep and solid, excellent early green fodder; hardy.

The above five varieties are noted for their earliness, suitability for green fodder crops and, with the exception of Ninety Day, they are all heavy yielders of grain considering their short growing season.

Funks Early Yellow Dent—One of the earliest of the Dent varieties and a splendid variety especially for the tablelands and slopes.

Wellingrove (or Early Yellow Dent)—Heavy cropping, deep grained.

Hickory King—Main crop, similar to preceding, but with broader grain.

Giant White—Excellent main crop. Grain large, deep and solid; Splendid green fodder.

Manning White—Heavy main crop; large deep grain.

Selected Yellow Moruya—Main crop. Splendid large rich yellow grain.

Goldmine—Favoured as an early main crop on the South Coast. Deep yellow grain.

Large Red Hogan—Attractive mid-season sort; very hardy and heavy cropper.

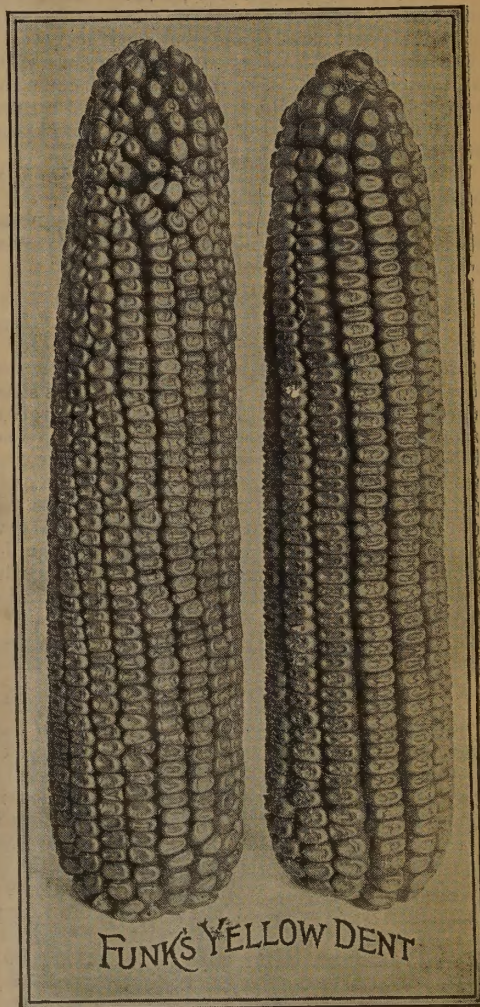
Yellow Hogan—Main crop; very similar to above, except in color. One of the very best Maize we have.

Yellow Horse Tooth—Main crop; a deep, soft-grained Maize, largely grown on our Northern Rivers.

White Horse Tooth—A very deep soft-grained Maize, tall growing, largely used on our Northern Rivers; a late sort.

Yellow Hawkesbury—Deep broad grain, splendid in warm districts; heavy cropper.

Fitzroy (or Improved Yellow Dent)—A heavy cropping deep grain variety, suitable for green fodder.



FOR PRICES AND VARIETIES AVAILABLE
SEE CURRENT PRICE LIST—POST FREE

THE IMPORTANCE OF ROTATION WITH LEGUMES IN MAIZE GROWING.

IN most districts where mixed farming is carried on Maize is a summer crop of the utmost importance. Even where the season is too short to ripen the grain the green fodder produced is of great value, either for cutting and feeding in the autumn, or for storing away in the silo for future use. In the true maize districts the grain crop is a staple one and if for any reason this fails it is a serious matter for the farmers in those districts. Now, if by using the fallow maize lands in the winter for growing other crops, we can materially improve that land for maize next season, it becomes a matter of real interest to farmers to test such renovating crops.

As a rule the best maize flats are subject to occasional flooding and a deposit of new soil is thus left on the surface. This keeps the land rich and well supplied with the necessary plant food and humus. After a time, maize land which is never flooded loses its "strength," the crops dwindle, and the use of superphosphate and other artificial manures must be resorted to. The main reason for this is the gradual depletion of the readily available plant food and the humus, or organic matter in the soil.

Table showing plant food removed from one acre by an average Maize crop.

Crop	Nitrogen	Phosphoric Acid	Potash
Maize (grain) 50 bushels	50.0 lbs.	24 lbs.	16 lbs.
" (stalks) 3,000 lbs.	25 lbs.	7½ lbs.	36 lbs.

It will at once be noted that Nitrogen is one of the very necessary constituents of good maizeland. Potash is usually well supplied in the land, and in any case most of the potash is returned to the land in the stalks and leaves of a grain crop. Phosphoric Acid is cheaply available in the form of Superphosphate, but Nitrogen is an expensive item to put on the land in the form of artificial manures. Whereas a fifty bushel crop of Maize will take from the land 50 lbs. of Nitrogen, an ordinary dressing of a nitrogenous manure adds only about 10 lbs. or 11 lbs. to the acre. While this has a valuable stimulating effect on the crop, we must look elsewhere for a cheap means of supplying this important plant food.

NITROGEN FROM LEGUMINOUS CROPS

All leguminous crops, such as peas, vetches, cowpeas, clovers, etc., have the power of drawing their Nitrogen needs direct from the air. This element is stored in the roots and foliage of these plants and when the whole, or portion of such crops are ploughed under, a large amount of cheap Nitrogen is added to the soil. If such a leguminous crop is

cut and removed the benefit is curtailed, as only a portion of the Nitrogen is stored in the roots and stubble; but if the field is grazed, as in the case of clovers, cowpeas, vetches, etc., a considerable amount of the crop is returned to the soil by trampling and animal manure. A crop of peas for thrashing, or green marketing, will yield back to the land the Nitrogen contents of the straw and roots.

For the purposes of improving the Nitrogen contents of maize land and for improving the texture of the soil between the maize crops, we recommend the following legumes. Field Peas, Market Peas (for picking green), Crimson Clover (*Trifolium incarnatum*), Berseem or Egyptian Clover, and Tares and Vetches. We shall be pleased to give particulars as to the best varieties for different districts, supplies available and prices, on application. We commend to farmers the N.S.W. Department of Agriculture's Farmer's Bulletin, No. 134 (October 1920), "Soil Improvement for Maize," for further information.



On our Seed Farm we grow Peas as a rotation to keep the land fertile and in good heart.



This is an annual Clover, making its growth in the winter and spring. It should be sown as soon as the weather breaks in late summer or early autumn.

SORGHUMS

FEW fodder plants are held in such general favor in such a wide range of districts as the Sorghums. This plant has wonderful adaptability to different soils and climates, and will produce big yields of splendid fodder where maize would fail.

The early varieties grow quickly even on poor land and under droughty conditions, and give green feed when most other things are withering. The late sorts grow under similar conditions, and stand well into the winter—even when the flag is frosted the stalks retain their succulence and sweetness—and provide a very palatable and fattening fodder when it is most acceptable.

Many farmers are reluctant to grow Sorghum for fear of poisoning their stock, but the Sorghums are too valuable to exclude, and if the following is noted, they can be fed to stock with perfect safety. Sorghum should not be fed green until the crop is matured, that is when the flowering stage is reached. If the crop becomes stunted with drought, or frosted, it is also dangerous to feed green; in this case it should be cut and dried or made into ensilage. Matured Sorghum can be fed without any risk.

For ensilage, experience shows that Sorghum should be fairly mature before cutting. The stalks may look rather dry, but Sorghums should not be cut for silage until the seeds are hard. If cut too early the silage is apt to be acrid and inferior to that cut at the right time.

The earliest sowing of Sorghums should be made directly the frosts are over, and the second crop may be planted up to the end of January, November and December being the best months.

In rich, moist land, and where fineness is desired, up to fifty pounds can be sown broadcast per acre, but in ordinary situations thirty pounds is ample; it is a good method in such land to sow in drills three feet apart, and keep the land between the rows cultivated. In drills, about ten pounds per acre is sufficient. Prices vary with the market.

NEW SORGHUMS

The following are six new varieties of Sorghum which have been picked as being the best from variety trials recently carried out by the Department of Agriculture. We expect to have limited supplies only of these varieties.

No. 34.—A very good variety, but very early and can in some cases be grown to maturity by the end of the year. It is especially suitable where a very early sort is required.

Sumac.—This is a fairly sweet variety and a very vigorous grower. It is thought that it may possibly take the place of Black Sorghum. As yet, however, conclusive tests of this variety have not been carried out.

No. 61.—Very similar to, and will doubtless be a rival to Saccaline. It is a sweet, succulent, heavy yielder, and is disease resistant. Matures slightly earlier than Saccaline, but is more frost-resistant and stands longer into the winter months.

White African.—This has perhaps showed out best, proving itself to be an exceedingly heavy yielder, and to be sweet, juicy, and disease-resistant. This variety should be planted fairly thick, otherwise it tends to become coarse in the stalk.

Honey.—This is the newest of all the varieties mentioned, and is reported to be a tremendously heavy cropper. No conclusive tests have been made of this variety yet.



Collier.—A very fine variety, juicy and sweet. One which stands well into the winter; is a clean grower, and has shown a decided resistance to red stain or rust. Its green fodder yield is heavy and it should be well worth trying.

Sorghum, Saccharatum or Black Sorghum.—The hardiest recommended for cold districts where the season is short. Supplies very doubtful.

Early Amber Cane.—The earliest and the best variety to withstand droughty conditions. Largely used on the irrigation areas, as less water is required to bring it to maturity.

Planter's Friend.—For late crop, as it stands cold weather and retains its sweetness and feeding qualities even after the seed is matured.

Saccaline (The Ideal Late Sorghum).—Exceptionally rich in sugar, it is very palatable and fattening to all classes of stock, while its succulence and freedom from "pithiness" after standing through severe winter is most marked.

One of the very valuable habits of Saccaline is its persistent ratooning or throwing up of new growths from the roots when the matured stalks have been cut. It has in several instances stood through the winter, and then when all cut, thrown up a fresh crop of fine stalks the following spring, and grown well through the second summer.

FOR PRICES SEE CURRENT PRICE LIST—POST FREE.

GRAIN SORGHUM

"The Summer Growing Grain Crop for Inland Farmers."

In districts where the average rainfall is too limited for the regular growing of Maize, Grain Sorghum will soon be recognised as worthy of inclusion in all crop rotations. It has these characteristics.—(1) It will thrive on a lower rainfall than Maize. (2) The grain has a feeding value nearly as great as Maize. (3) The weight of grain produced is good, under fair conditions up to 40 or even 50 bushels per acre may be obtained. (4) It will succeed in soils too poor for Maize and it seems to be more or less resistant to alkali in the soil. (5) It can be used for fodder or for ensilage when the seed is in the "dough" stage. (6) Even when the seed has been harvested the foliage and upper stems are of value for the stock as roughage. (7) Unlike other Sorghums it is non-saccharine.



A Head of Grain Sorghum showing Enormous Yield of Grain.

Feeding as Grain—When ripe the heads can be harvested and thrashed or they may be fed straight to the stock. If possible it is an advantage to crush the grain or if desired the whole head can be ground without thrashing.

Green Fodder and Silage—For these purposes the plant must be left until the seed is in head (say in the "dough" stage), when there is practically no danger of Sorghum poisoning, so long as there is no young growth showing. Silage made from Grain Sorghum is of considerable fodder value and will be worth many times its cost in a dry time.

Sowing—After the frosts are over the earlier the seed is sown the better. We recommend sowing thinly in drills 3 ft. apart and the rate per acre should be 6 lbs. to 8 lbs. for fair rainfall districts, and 4 lbs. to 6 lbs. for areas of light rainfall. Large paddocks can be sown with the wheat drill if a little care be taken to make the necessary adjustments. When the seed is up give the same cultivation as for corn. If possible give the land up to 1 cwt. superphosphate per acre.

VARIETIES

Kaoliang—This is the quickest growing of the Grain Sorghums, and also the most drought resistant. It has been found that once the plant has developed it will not fail to set seed even under the most adverse conditions, but the average yield of Seed is never

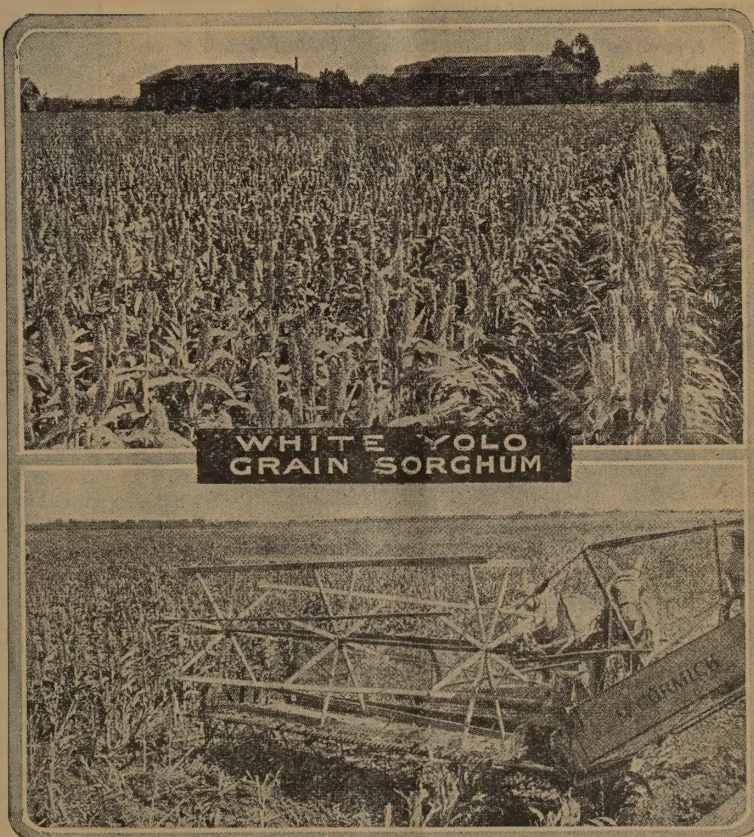
so high as with the other varieties. It has thin, pithy stems and the foliage is sparse.

Feterita—One of the most promising Grain Sorghums for the interior, and is excellent for tiding over dry spells. Both the stems and heads have the capacity to hold on remarkably well until favourable conditions arise for the grain to form and mature, which it does very quickly.

Milo—This is a very quick grower, but is generally the last of these Sorghums actually to set its seed. Where there is enough moisture to form seed, its yields are high. It will produce a considerable quantity of green fodder, up to four tons per acre without irrigation. The grain of this variety seems to have superior nutritive qualities and on the whole it is one of the most attractive sorts for our semi-arid districts.

White Yolo—This is a new variety which has just been sent out in America. It is, apparently, the result of selection after cross hybridisation between Feterita and Milo. Our supplies are N.S.W. grown from seed especially imported from U.S.A. Dept. of Agriculture. Its main characteristics are dwarf habit and uniformity of height, thus making it easy to harvest by machinery.

Kafir—A much slower growing variety than the others, and is noticeable because of its much more leafy and succulent growth. The plant itself is fairly drought resistant and will retain its succulence through long dry spells. Under good conditions this has given the highest yields of Seed (up to 120 bushels per acre when irrigated) but under adverse dry conditions it will hardly set seed at all and so is only suitable for localities with a fairly favourable rainfall.



SUDAN GRASS

THE WONDER CROP.

Because of its drought resistance this crop must be of interest to farmers of Western Lands. Once started it produces persistently heavy masses of Green Fodder right through the hot summer months. It is a prolific yielder and of great nutritive value, and one of the very best hay crops.

AS a summer crop Sudan Grass has come into striking prominence during the past few years. We believe that this grass is destined to take a very high place among our summer fodder crops. Though not so heavy a yielder in its primary growth as some of the Millets, after the first crop is taken off, Sudan Grass stools quickly and comes again and again in a miraculous manner. The rapidity of growth and weight of crop of the second, third, fourth, and in some cases fifth cuts surpasses anything else among the summer fodders.

Sudan Grass requires a good seed bed and a certain amount of moisture in the soil to germinate quickly and evenly, but, once established, it has proved itself to be of great drought resistance, in fact it can be accepted that Sudan and Grain Sorghum are the only summer fodder crops that will give consistently good results in the western districts of N.S.W. Its palatability, green, or in the form of hay, is indicated by the greedy manner in which all classes of stock eat Sudan Grass. Its fodder value, tested under chemical analysis, is stated to compare most favorably with wheaten or lucerne hay. Sudan Grass stands grazing extremely well, and it is probably the most valuable of the summer-growing fodder crops for this purpose.

A member of the Sorghum family, Sudan Grass is an annual and must be sown down each year. It is most sensitive to frosts, and should not be sown until all danger of such is over, and then as early as possible so as to ensure a good growth and a strong stand by midsummer. Prepare the land as in the cultivation of wheat or sorghum. Sow either in drills or broadcast. If in drills, about eighteen inches to two feet apart, sow 6 lb. to 8 lbs. to the acre. This allows of cultivation between the young plants, assisting materially in helping on the young growth by conserving the moisture and checking the weeds. For the man sowing a large area probably the most practical method of sowing this crop would be through the ordinary grain drill—perhaps alternate hoes—at 8 lbs. to 12 lbs. per acre—or failing

that, broadcast at the rate of 12 lbs. to 16 lbs. per acre. Its value as a grazing crop is very high but will be enhanced by growing with Cow Peas or Soy Beans where the climatic conditions permit.

As will be readily understood in such a quick growing and vigorous plant, Sudan Grass responds very noticeably to fertilisers. An application of from 1 cwt. to 2 cwt. of superphosphate with the seed is strongly recommended.

Order early—sow as soon as frosts are over, to get a long growing season.

FOR PRICES SEE CURRENT PRICE LIST,
POST FREE.



Harvesting Sudan Grass for Silage.

A WORD ON "STOCK POISONING." LITTLE RISK WITH SUDAN WHEN RELIABLE SEED IS USED.

There is much misconception about poisoning of stock by Sudan Grass, and we feel that a little space allowed here for a brief statement of the facts will be well used.

In tests carried out by the Department of Agriculture over a series of years, using a pure strain of seed, no trouble from poisoning has ever occurred. This in itself would show that the risk, if any, is infinitesimal when using a pure strain.

But Sudan Grass is very closely related to the Sorghums and will readily cross with them if grown nearby, forming a hybrid, which is quite distinct from ordinary Sudan Grass, and shows broader leaves, coarser stems, more bunchy seed

heads, and more vigorous growth. These hybrids are usually easy to see growing in the crop, and, if present, should be rooted out. Sweet Sorghums are definitely known to be poisonous under certain circumstances, and so it is not hard to understand that a hybrid would probably show the same tendency.

Although we cannot and do not guarantee that the Seed we offer is free from hybrid strains, we wish our customers to know, that realising as we do the importance of this matter, we take the greatest care in the selection and examination of our samples, besides making exhaustive enquiries about the origin and place of growth.

Finally, in considering the advantages and disadvantages of Sudan Grass as a fodder, we would suggest that the slight risk involved is far outweighed by the great economic value of, and the big returns so easily obtained from, this wonderful summer fodder crop.



A Heavy Crop of Sudan Grass on the Cowra Experiment Farm.

MILLETS

Quick, Cheaply-Grown Summer Fodder Crops.

As a catch crop to augment the natural grazing many farmers require a quick-growing fodder to give a "green pick" when the pastures are ripened and dry. The need is for something that will require little labor in cultivation or harvesting. Some of the MILLETS are eminently suited for this purpose. They will grow well on even mediocre land and several of the varieties stand grazing very satisfactorily, and shoot again and again.

As a "follow on" for milking cows and growing lambs, after the spring grass has commenced to dry, the several varieties of MILLETS specially indicated are excellent. Sow broadcast or through an ordinary grain drill set for suitable depth, as mentioned below.

VARIETIES AND THEIR USES.

PEARL MILLET

This is a very tall growing variety suitable for hay making. If sown in rows and intercultivated it will attain a height of 8-10 feet. It has slender stalks and slender long bladed leaves making it very suitable for hay and should be cut while young and tender. Sow 8-10 lbs. per acre in drills or up to 20 lbs. broadcast.

WHITE FRENCH

Is smoother and of slightly more succulent foliage, and grows up a little higher, but does not stool quite so well. This millet also recovers very quickly after feeding off or cutting.

BROOM MILLET

The grain is an excellent fowl feed, but the great value of this variety is for broom making. We stock the best Hunter River Grown Long Hurl variety.

JAPANESE MILLET

For grazing purposes or green fodder, gives the earliest growth. This variety is of upright growth, and stools out fairly well. It grows up to 3 feet 6 inches or more high and "comes again" very quickly after being fed off or cut; also makes excellent hay.

HUNGARIAN MILLET

Another very valuable Summer green crop. Sown in the spring or early summer it will give a wonderful heavy crop of hay or ensilage. For hay purposes the Hungarian Millet is much superior to other varieties. It is a quick grower; in fact, in suitable situations, if the seed is sown in September, it will mature early enough to obtain a second crop of hay off the same land. Twelve pounds of seed per acre in drills, or 20 pounds broadcast is a fair sowing. When in bloom it should be cut and treated as other hay.

YATES' Re-cleaned SEED GRAIN

IN SEALED AND BRANDED BAGS.

THE importance of sowing only Re-cleaned and Re-graded Seed Oats and Seed Wheat for green fodder as well as for grain is now beyond the experimental stage. The high cost of labor and high land values make it more than ever necessary to get the most out of the cultivated land. It is better to have ten acres of a really good crop than twice the area giving only an indifferent yield.

SEED OATS

Prime Heavy Re-cleaned Samples.

We have proved at our experimental farm at Exeter that the most profitable method of feeding dairy cows for eight months of the year is to plant **Algerian Oats** for grazing. To get the best results the cultivation land should be divided into three or four small paddocks; the crop which has been eaten down soon recovers after a few weeks' spell, but continual grazing is wasteful, not good for the crop or the cows. We recommend that a dressing of 1 cwt. of Bonedust or Superphosphate be used, also five or six pounds of Clover seed per acre be planted with the Oats. This will give a more balanced ration and so increase the milk flow; it will also make the land increasingly fertile, and give a good stubble-feeding during the following autumn.

We have found Algerian Oats to be by far the best variety for grazing; being of finer growth it stands a good deal of trampling and its spreading habit and strong root growth prevent it from being easily pulled out. If shut up in the early spring a crop of hay may be harvested in addition.

For cutting purposes some of the vigorous-growing early Oats like Mulga, Sunrise, etc., may prove superior in the milder climates; these are tall-growing and have fleshy stems, and come very quickly; in fact, they grow almost as quickly as Barley and are superior to it for feeding value. They will however not stand extremes of frost like the Algerians, and, on account of their coarse fleshy growth, do not stand trampling and hard grazing so well.

For late sowing in the cold districts the Tartarian and heavy varieties are preferred.

VARIETIES.

Mulga, Sunrise, Guyra, Ruakura, White Tartarian, Algerian, Black Tartarian, Heavy White, Heavy Black.

RYE CORN (Mammoth White)

Rye is a very hardy plant, and is largely used for winter feed, especially where the climate is severe; it will stand the heaviest frost. It is particularly good when fed off; many experienced farmers preferring to use it this way, as they find their stock do best while the Rye is young.

It will stand grazing all the winter, and rapidly grows again after being eaten down. It is also used for mixing with Tares, the Rye serving to hold the Tares off the ground. Rye comes into use very early. It is also sown to advantage mixed with Rape. The straw is very valuable for thatching, and some farmers sow the headlands of their hay paddocks with Rye Corn for thatching the stacks. Sow about two bushels to the acre.

Mr. E. O. B., Pampoolah. 30/5/25
"The Sunrise Seed Oats which you sent by Messrs. Thomsons Ltd. is the finest Oats I have seen in germination—about 100 per cent."

SEED WHEATS

Prime, Heavily Re-cleaned Samples. Grown from Select Stocks.

A large proportion of our seed wheat supplies has been specially grown for us by Yates Bros. Ltd., Cudal, from specially re-graded seed of selected stocks.

Wheat is largely used for green fodder and for hay as well as being the world's most important grain crop. It stands dry conditions better than almost any other grain and is therefore of great value for fodder and for hay, as well as for grain in districts of low rainfall. It will often give good crops in seasons which cause oats to be a failure.

Following we give a list of varieties which we offer this season, but as supplies of some varieties are somewhat limited, early enquiries are invited. The advantages of sowing only whole plump grain free of pinched broken seeds, weed seeds and foreign matter, is now proved to be worth many, many times the slight extra cost per acre for Re-cleaned Seed; in unfavorable seasons it may mean the difference between a crop and a failure.

Thew and Florence are of special value for green fodder under coastal conditions.

Sow up to 2 bushels per acre together with a dressing of 56 lbs. to 112 lbs. superphosphate per acre, according to location and quality of the land.

VARIETIES.

Florence, Thew, Canberra, Federation, Hard Federation, Marshall's No. 3, Yandilla King.

BARLEY

Barley is the earliest of the grain crops to mature and in this earliness lies also its great value as a green fodder crop. It is one of the sweetest fodders grown and is relished by all classes of stock.

For the farmer's purposes, the Barleys can be classed into three, namely:—Cape Barley, Skinless Barley, and English or Malting Barleys, the two former being of the most importance to the farming community. Cape Barley is the one most generally used for green fodder; it grows very quickly, but as it is not so hardy as other grain, it is most suitable for early use in cold climates. Skinless is also a good variety, coming very early to maturity, and affording two cuttings; it should be grazed after each cutting; the close feeding seems to cause it to come again with renewed vigor. English or Malting Barley is usually grown for grain for malting purposes, and this variety does best in cool climates with a comparatively good rainfall. As the only market is with the brewers, full enquiries should be made from them before large areas are planted.

Cape and Skinless Barley both make excellent silage. The addition of Field Peas when sowing makes a combined cereal-legume crop of high nutritive value.

Barley should be sown broadcast at the rate of two bushels per acre, or if drilled one bushel should suffice.

Yates' **DWARF ESSEX A.Y. BROAD-LEAF** Sowing Rape

Sowing Rape is the most profitable of all annual sheep fodders.

Sowing Rape is the best change or rotation crop for the wheat farm.

Sowing Rape is very valuable as a soil renovator.

Yates' Dwarf Broadleaf is the best and most vigorous strain, and every line heavily re-cleaned and tested, and sold in sealed and branded bags.

Write for current quotations.

RAPE is the great fodder plant for sheep husbandry in Australia, and with the widespread recognition of the value of combining sheep and wheat, Rape is now becoming a very important crop on the wheat farm, not only for sheep feed, but also a rotation crop and for renovating wheat land. The cost of the seed is so little, and the cultivation so simple, that it cannot fail to be much more largely used.

If paddocks, which are showing signs of exhaustion under wheat, are ploughed, and a crop of Rape sown, say early in March, it will give an enormous quantity of sheep feed during the winter and following spring, which will fatten ten or twelve sheep to the acre for some months; and if during the following summer, the remains of the crop and sheep droppings are ploughed in, the land will be very much enriched, and if sown with wheat again, a greatly increased yield will result. It is easy to see how profitable it is to utilise the land in this way. Even if, owing to unfavorable seasons, the crop of Rape comes to nothing, there is very little lost, as the cost of seed is so little. Rape is equally good for pig feeding or even cattle, so long as it is not given in quantity to milking cows, as it is apt to taste the milk.

Where large breadths of land are not available, there are often paddocks about a homestead which will give enormous yields of fodder if sown with Rape, and which would be particularly valuable for feeding stock during the scarce season; they all eat it greedily.

Sheep put on to Rape fatten very quickly; even old broken mouthed ewes, that would starve on an ordinary pasture, very soon put on flesh, and

are fit for the butcher. They should, however, be sent to market as soon as they are "topped off," as if put back on to grass they very soon lose condition again. As a means of fattening lambs for the English market, there is nothing to equal Rape; they are soon in the pink of condition as required for the export trade, and if there are two or three paddocks of Rape, so that as soon as eaten down, each paddock can be "spelled" the plants soon recover and give a second or third crop almost as good as the first; in fact, if sown in the early autumn it should give several months' feed.

Poultry farmers are finding a small patch of Rape a valuable asset, and for this purpose small successional sowings should be made through the autumn and again in the spring.

Some growers prefer to sow it with Rye Corn, say half-bushel of Rye and two pounds of Rape; others sow it with Mustard, using half-a-pound with four pounds of Rape per acre. The inclusion of Mustard corrects the tendency of Rape to sometimes scour.

We recommend sowing in February, March or April, after the good autumn rains, but as early as possible after the middle of February. It can also be sown with advantage in the early spring, especially in the cooler districts. It is extremely hardy. The land should be deeply ploughed and well worked; but if sown on stubble land, it would be enough on light soils to thoroughly stir the surface with a disc harrow; but ploughing and harrowing would be much better still. Sow three pounds per acre in drills, or four to six pounds broadcast (if drilled, so much the better). Where a machine is not available it may be sown broadcast by mixing with several times its bulk of dry soil, which will materially help to distribute the seed evenly; or it may be evenly distributed with a Cahoon or Columbia Broadcast Seed Sower. We can

supply these useful little implements—price on application. We do not recommend that Rape should be sown on poor hungry land, as it will not succeed; it requires good soil and deep cultivation, and will well repay the labor expended in preparing the land thoroughly. Where manure is employed in growing Rape (and it is a crop which quickly responds to such attention) we would recommend one rich in ammonia, say blood manure or fine bonedust; superphosphate is also used with great success.

As there are several varieties of Rape, some very much better and yielding larger crops than others, also, as many of the cheapest samples are tainted with wild mustard or yellow weed, we would strongly advise growers to buy our re-cleaned seed, and note that each bag is sealed and branded.



Sundry Fodder Crops

Burnet (Sheeps).—This fodder plant has proved itself suitable for our dry inland country, where it would be futile to sow English grasses, and where the soil is not suitable for growing Lucerne. It thrives alike in rich or poor land, and on either flats or hills; it gives great results in the undulating land about Wagga, where neither Lucerne or Rape will succeed. It is one of our best drought-resisting plants, and remains green when every other fodder is burnt up, springing again with light showers that would have not the slightest effect on the grass; it is absolutely permanent, and, when once established does not die out. It is a herb, not a grass, grows from fifteen to eighteen inches high, and has a long tap root, which enables it to stand dry weather and grow when other plants, with shallower roots, are drought-stricken. It grows both in summer and winter, giving the greatest rush of feed in the spring. All animals are fond of it, and thrive well on it, but it is particularly suitable for sheep. Sow ten to twelve pounds per acre. Burnet may, with advantage, be included in Grass Seed Mixtures for poor soils; being a deep rooter it does not rob the surface-rooting grasses, and succeeds where better grasses fail.

Sunflower.—Valuable, when growing, as shelter to young crops, and the seed forms a most excellent food for poultry and in fact all stock. In U.S.A. it is now being used quite a lot for ensilage; it has been found of considerable value for this purpose. Sow about 12 lbs. per acre in rows three feet apart.. (Black Seeded or Striped).

Artichokes (Jerusalem).—These are similar to Potatoes, and require the same cultivation, but we would plant in rows two or three feet apart. A most desirable and delicate vegetable. They yield very heavy crops and are excellent for pig feeding, especially where pigs can be turned in to root them out; their fattening value is 25 per cent greater than potatoes. Four to six cwt. will plant an acre.

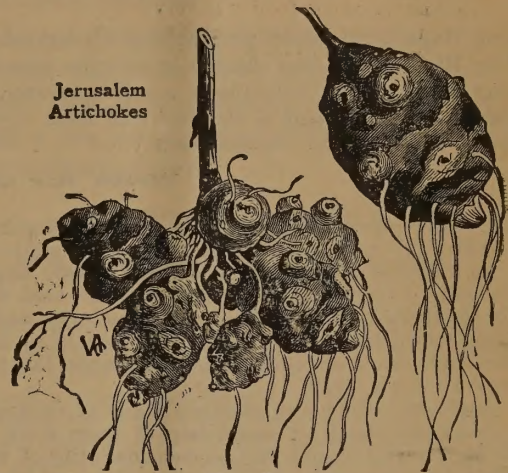
Buckwheat (Japanese)—A splendid quick yielding fodder crop and valuable for fowls. Japanese are the largest and most vigorous varieties. Sow 20 pounds per acre.

Canary Seed.—So largely grown for bird seed. It may also be used for hay purposes, requires similar culture to wheat; sow 17 to 20lbs. per acre. Queensland grown seed, and extra large seed, Morocco grown.

Linseed (N.Z. Grown).—This is grown either for seed, for oil purposes, or for the fibre for linen making, but requires special conditions, which intending planters should inquire into if putting in large areas.

Melons, Cattle.—A mixture of suitable sorts. Generally the Cattle Pumpkins are to be preferred, but the Melons form a juicy-stand-by-fodder

Mustard.—For a quick green fodder for fattening lambs, Mustard can be recommended. Sow eight pounds per acre. It is also frequently mixed with Rape. It is ready a few weeks after sowing.



Pumpkin, Cattle—The Pumpkin crop is invaluable for winter feed for milking cows and young calves; 1lb. will sow an acre.

MAMMOTH CATTLE—Very large, heavy cropper.

GRAMMA—A long shaped variety, big yielder.

MIXED CATTLE—Including types of Ironbark and similar varieties, excellent for productiveness and keeping quality.

Silver Beet—This plant is grown for the green tops, not for the roots, as with other Beets. It is found in New Zealand that the foliage is reproduced so quickly after being eaten down, that it makes an excellent crop for sheep fattening. Plant in rows, thirty inches apart, so that the land can be hoed, and thin from nine to twelve inches apart in the rows. Sow three or four pounds per acre.

Teosinte.—As this has been largely superseded by other crops and as we have little or no demand we have discontinued stocking.



ROOT CROPS

THESE are worthy of greater attention from Australian farmers. Here we have valuable food in a concentrated and easily handled form. The weight of fodder per acre to be realised from root crops is enormous. The quality of the fodder is very high and where any hand feeding is practised it is not a difficult matter to feed the roots. In Australian climates Mangolds, Sugar Beets and Carrots will stand fairly well in the ground right through the winter, and they can be pulled and fed as required.

MANGOLDS AND SUGAR BEET

Wonderful milk producers, and yield immense crops. Sow about September-October; in warm climates an autumn sowing will give a fine crop. Plant in well worked clean land, in drills 30 inches apart, to allow horse cultivator to work and when up hoe to remove any growth of weeds, and if necessary to thin out to allow the roots to develop. Five pounds per acre of Mangolds and about eight pounds per acre of Sugar Beet are fair sowings.

Yates' Mammoth Long Red—A very select stock. The roots are of excellent quality, clean, smooth and free from fangs; flesh close grained and full of saccharine. The heaviest cropping Mangold grown.

Yates' Champion Yellow Globe—A very select stock, small top; flesh close in texture, excellent feeding quality.

Golden Tankard—An excellent keeper. The roots medium size, with deep yellow flesh, and contain high percentage of saccharine.

Long Yellow—An excellent variety, very heavy cropper.

Sugar Beet Wanzleben—Half long white roots, sweet and crisp.

Giant Half Sugar Mangold—We keep the two varieties, White and Rose. They are sweeter than the ordinary Mangold and larger than Sugar Beet, combining the quality of the Beet with the weight of crop of the Mangold. Tested against Sugar Beet it yielded twice the crop. Intermediate in size, averaging about one foot in length.



Yellow Globe Mangold

FIELD CARROT

Valuable for all classes of stock, particularly horses. Sow any time in spring or early summer, when the weather is favorable, at the rate of four pounds per acre in drills 30 inches apart for horse work or closer if for hand work.

White Belgian—Grows well out of the ground, so it can easily be pulled by hand.

Orange Giant—A rich orange red variety, very handsome and smooth, producing large crops.



Sugar Beet

SWEDE TURNIPS

Swedes can be grown cheaply and with comparative ease on much of the upland country of N.S.W. not only for stock but for the vegetable market. For sheep they make an excellent fodder especially as they become available during the winter and early spring when most needed. Sowing should be made in February, March and April at the rate of two to three pounds per acre in drills about two feet six inches apart. Up to one hundred weight of superphosphate will cause considerable increase in weight and vigor of crop.

VARIETIES

YATES' CHAMPION PURPLE TOP—A standard globe-shaped variety, which gives wonderful returns and is the standard sort for growing for market. Our strains are unexcelled, the crop comes in evenly and the Swedes are well shaped, large and keep well.

YATES' MONARCH—A large tankard-shaped variety, with purple top. Heavy yielder and a good keeper. Excellent for stock or market growing.

Australian Saltbush

THE PLANT THAT MAKES FODDER WHEN FEED IS MOST NEEDED.

The cultivation and preservation of our native Saltbush has been very much neglected. Its drought resistance and ability to thrive in the most arid situations is proverbial, and the different members of this important family succeed in a very wide variety of soils. In our inland districts it will be found that areas put under Saltbush at little cost will help very considerably to tide over the long dry spells. The value of the Saltbush has spread abroad and large areas of "useless" country in U.S.A. have now been reclaimed with this plant. Although not sought after by stock when grass and herbage are available, Saltbush is readily eaten in times of scarcity, when it is most needed, and chemical analysis has shown that the nutritive content is high. Once established they grow quickly and with reasonable protection seed freely. Mr. Fred. Turner in his book "Australian Grasses and Pasture Plants," is a strong advocate of the more extensive use of this plant. Speaking of *Atriplex nummularia* he writes:—"During my extensive travels in Australia, describing the indigenous and acclimatised vegetation, I have seen several disastrous grass fires in the interior. Where Saltbush was fairly abundant the effects of the fires were not nearly as disastrous as where this valuable vegetation was scarce, or had been eaten out by stock. The succulent leaves of the Saltbush were only slightly scorched after the fire had passed over the country, and the growth afforded great protection to the more delicate grasses and herbs, which soon begin to grow again if the weather and soil conditions are favorable. It was after making these observations that I advocated the planting of the Old Man Saltbush as a firebreak, for it is easily cultivated and grows rapidly. A plantation a chain wide or more, and as long as desired, could be formed between two parallel stock-proof fences at comparatively little expense. Such a plantation would answer the double purpose of affording excellent feed for cattle and sheep (the upper growth being judiciously cut for this purpose)

and providing a dense growth that would arrest the progress of the fiercest bush fire that menaced homestead and crops. It is not necessary to plough or otherwise work all the land between the fences for the reception of the seeds. All that is required is to pulverise the soil in patches, eighteen inches square, and one foot deep, at intervals of from eight to ten feet, with a strong hand hoe, and thus form a good seed bed, which should be slightly concave on the surface. In the centre of each depression sow half a dozen seeds, preferably in early spring, and leave them covered with about half an inch of fine, light soil. The only attention that is necessary is to keep the weeds and grass in subjection about the young plants after which they will take care of themselves. Under ordinary conditions Saltbush raised in this way will have grown from four to five feet high by autumn."

Saltbush is not difficult to raise from seed or cuttings, or roots. Seed should be sown in the autumn or early winter, either direct or in a nursery bed and later transplanted.

The Dept. of Agriculture recommends that the plants be raised in nursery beds and transplanted when about twelve inches high.

We think that greater consideration than hitherto might well be given this plant by graziers in our western slopes and plains country. One pound seed about an acre.

VARIETIES

The two varieties of greatest value are:—

Atriplex nummularia (Old Man Saltbush)—Grows to six or ten feet or more with numerous spreading branches carrying thick succulent foliage. Very hardy.

Atriplex semibaccata (Creeping Saltbush)—A creeping variety especially suited for sheep country. Under cultivation it has shown very rapid growth.

Edible Trees and Shrubs

KARRAJONG (*Sterculia diversifolia*)—A tree that combines palatability and a relatively high nutritive value as a fodder, with ability to grow in almost any part of our pastoral country, and great use for shelter and a fine appearance, surely deserves to be widely planted. What finer investment for the pastoralist than plantations of this beautiful tree. Although slow growing at first, it will in a few years form a very shapely tree, and the rate of growth will probably be accelerated with a little judicious cultivation round the tree. The chemical analysis of the foliage is very good and after any long dry spell the lopped trees one sees everywhere is the best testimony to its value. The more care that is exercised when lopping, to take only the finer branches, the quicker the tree will recover.

Seed should be sown from autumn on to early spring and usually germinates readily. The seedlings must of course be given protection if planted in the paddocks, but growth will probably be quicker if they can be put out in blocks and fenced off and the ground worked now and again.

TAGOSTASTE (so-called "Tree Lucerne")—A quick growing shrub or dwarf tree. It makes excellent shelter round the fences of paddocks, and in periods of drought and scarcity would make an excellent stand-by for feeding. We do not value it very highly as a fodder, but used as above it is well worth growing. It is also unequalled as a breakwind round an orchard or garden. Having a deep tap root it does not rob the surrounding land as other trees do; in fact, crops can be successfully grown close up to them. In its flowering season it gives a great harvest to the bees. The plants are easily raised from seed, which should be soaked in warm water before planting. It is best to sow the seed where they are to grow, afterwards thinning them to proper distances apart.

TREE LUCERNE (*Medicago Arborea*)—The true Tree Lucerne, growing six feet or so. Pretty ornamental plant, and useful for fodder in drought times.

It is also claimed to be of value as a honey plant.

YATES' HAND PICKED SEED POTATOES

THE SEED POTATOES offered in this list are all prime graded samples carefully hand-picked, outsized and diseased tubers being thrown out. The bags we send out are all stencilled "YATES' HAND-PICKED SEED POTATOES," and customers should see that the bags they get are so branded, otherwise they were not sent by us. It is quite impossible to guarantee Seed Potatoes to be free from the spores of Irish Blight, and the crop should be regularly sprayed where Blight conditions are prevalent.

Potatoes should be planted for early use as soon as the frosts are over. A few may be planted rather earlier as it is worth running some risk to get early Potatoes. Open drills about 30 inches apart and six inches deep. If possible put in this drill a layer of well-rotted stable manure; a dressing of some potash manure is also very beneficial. Potatoes up to two or two-and-a-half inches should be planted whole, those larger may be cut, care being taken to leave two eyes at least on each set. Plant the tubers about twelve inches apart in the rows. As soon as through the ground, keep the soil cultivated, and when plants are about six inches high they should be earthed up by throwing the soil towards the rows.

DESCRIPTIVE LIST OF VARIETIES.

EARLY MANISTEE—This has proved perhaps the best of the Early Varieties. It has a pink-brown skin, is of fine flavor and boils dry. One of the heaviest croppers in the early section. It is yearly becoming increasingly popular and has been found a suitable variety for light land.

EARLY ROSE—Well known as one of the Earliest Potatoes grown, and one of the best for early use if grown on suitable well-drained land. A good boiling variety, but its principal merit is its earliness and its suitability for our warmer districts where there is only a short growing season, and where it always yields fair crops.

EXTRA EARLY VERMONT—Very similar to the Early Rose, the tubers being longer, not so smooth, and with more prominent eyes; good cropper, and quite as early as that variety. Often called American Early Rose.

EARLY MANHATTAN—One of the heaviest yielding main crop varieties we have. A good cooking sort, firm white flesh, shallow eyes, and mottled blue and white skin. A handsome shapely potato, well suited to the Sydney market.

SATISFACTION—A pink skinned round variety, largely used in our coastal districts. It is one of the best keepers. Flesh white, boils dry, shallow eye.

ADIRONDACK—Main crop. One of the best keepers we have. The tubers are round, inclining to flat, with pink netted skin. They boil well and will give good crops in a suitable season, and in cool moist climates, where they have a long growing season, they are good croppers.

BROWNELL'S BEAUTY—A favorite main crop potato in New South Wales. It is a consistent cropper, and seems to do well alike in both hot and cold districts.

CARMEN—Good Late Variety. Heavy cropper, large handsome tubers, shallow eyes, uniform in size and shape, and boiling flowery.

FACTOR—A variety which is gaining favor as a late variety. The tubers are flat-oval, somewhat resembling Up-to-Date. The skin is white.

UP-TO-DATE—A good general purpose potato. The tubers are of good size and shapely with shallow eyes and white skin. Does very well in the cool moist districts and is also a favorite with market gardeners in Sydney and similar climates for their supplies of "new potatoes."

CORONATION—A fine main crop variety, very suitable for the cooler districts of New South Wales. In appearance it somewhat resembles the Early Manhattan, having a rough mottled blue skin. It is flat-oval in shape, has very shallow eyes. A heavy cropper, excellent keeper.

GUYRA BLUE SKIN—A strain of, and practically identical with, Coronation. A fine long season sort.

QUEEN OF THE VALLEY—A Red Skin Variety, producing heavy crops. A splendid table sort with fine flavor but supplies difficult to obtain.

LANGWORTHY—A comparatively new variety, with kidney-shaped tubers, tapering at the heel. It has shallow eyes, and white skin and flesh. The top growth is very vigorous, and under good conditions it does exceptionally well.

CUSTOMERS, NOTE!

PRICES—Owing to Fluctuations in Market Value of Potatoes, we reserve the right to vary prices without notice. We can quote definitely by return of mail for any lines required. Customers when asking for quote, should mention quantity required and when they wish them supplied. We Quote Special Prices for Ton Lots. To assist planters, we will, if sold out of variety ordered, substitute variety nearest to it in season and type, which we consider will give satisfactory results. If customers do not desire this, please instruct "Do not substitute."

NOTE—In connection with interstate orders we can only supply on the understanding that our responsibility ceases when a clean certificate has been obtained from the Department of Agriculture, Sydney. Customers in other States, when ordering Seed Potatoes, are requested to advise us that they agree to this condition.

TERMS—The prices of all Seed Potatoes are Nett Cash.

DELIVERY—We Deliver Free on Rail or Steamer, Sydney, after which they are at the risk of the purchaser.

Delivery within the Suburban Area of Sydney is charged extra at the following rate: 6d. per 14-lbs., 9d. per 28-lbs., 1s. per 56-lbs., 2s. per cwt.

ALL SALES ARE MADE ON THE CONDITIONS OF SALE and NON-WARRANTY, as set out in all our invoices and catalogues.

Market Garden Crops

FOR SPRING, SUMMER AND AUTUMN PLANTING

IN districts within reasonable distance of the centres of population and with a fair average rainfall, it is often well worth while for the farmer to reserve some of his best land for vegetable production for market.

The essentials for successful market gardening are good soil, good rainfall or facilities for irrigation, rotation of crops, intelligent use of fertilisers and regular cultivation.

Few crops average out as well as Cauliflower, Cabbage, Pea, Bean, Swede, etc., if grown under suitable conditions. It will be found that the man who, having decided what crops are best suited for his conditions, consistently grows those crops on a well thought out rotation, does better than the grower who is constantly changing over and thereby often meeting a "glut" of the particular line he is growing.

For best varieties, time to plant and for cultural directions, farmers should be guided by local experience and the information given in Yates' Annual and Yates' Garden Guide (1/- post free).

The higher returns regularly obtained by experienced men are evidence that skill and care are very necessary in this branch of farming. Where conditions of soil and season are not favourable, and where varieties have been sown unsuitable to the time of planting or the district, the crop is likely to vary considerably in type, season of maturing and uniformity. Our advice is to grow those varieties your neighbours have proved to do well, and then make your own experiments in a small way as to the suitability of later introductions and improved sorts.

Attention is directed to the Conditions of Sale and Non-Warranty set out on inside of Front Cover and on all invoices.

BEANS

For the warmer districts round Sydney and on the North Coast, beans are the prevailing market crop, and in those districts where early crops are possible very handsome returns are being obtained. The same remarks as to the desirability of growing this crop apply as they do to peas. As to varieties, Canadian Wonder is the standard sort, but there are inferior strains offering. **YATES' SELECTED CANADIAN WONDER** are the prime samples offering of a heavy cropping type. No better bean for market growing is offered. Usually two bushels per acre is a good sowing, and we advise sowing in drills far enough apart to permit of frequent horse cultivation in the early stages of the crop. Prices on application.

CAULIFLOWERS

These are somewhat uncertain, but where success is attained the profits are usually exceedingly satisfactory. The main thing is to grow them in good rich soil and rush them on quickly.

In dry weather they should be well watered, especially just after planting out.

Plant in December, January or February—this will generally give the best results.

Sow $\frac{1}{2}$ lb. of seed for every acre of plants required. Varieties suitable include our two Specialities: **Yates' Phenomenal Early** and **Yates' Phenomenal Maincrop**, which have done exceedingly well since introduced; **Early Italian Giant**, **Veitch's Autumn Giant**, **Late Italian Giant** and **Late Metropole**, which are self-protecting varieties, coming in from five to eight months in the order listed; and **Early Short Stemmed Eclipse** and **Late Eclipse**, which are excellent market sorts of the open or Dutch type.

CABBAGES

Cabbages do best on rich deeply worked soil and are largely grown on the cooler upland country near Sydney. The main planting should be made in December, January and February in most districts. Raise the plants in seed beds transplanting out into rows when large enough to handle, 24 to 30 inches apart each way. About $\frac{1}{2}$ lb. of seed is required to raise plants for one acre. The two leading sorts are:—

YATES' EARLY DRUMHEAD—One of the finest market cabbages grown. There is no better variety for standing the hot summers. The heads are large and solid and in good seasons it matures in four months. We offer Yates' Specially Selected Strain grown on our own Seed Farm. This strain has given great satisfaction. We also stock European grown seed.

HENDERSON'S SUCCESSION—This and Yates' Early Drumhead are the two main cabbages used by market growers throughout Australia. It is a week or two earlier than Drumhead, otherwise very similar. A good carrier and the best and longest standing cabbage for autumn planting for spring use. Our speciality is Yates' Re-selected Strain specially grown on our Tasmanian Seed Farm, and of this seed we have received many complimentary reports. We can also supply European and American grown seed if desired. Other sorts likely to be of interest and worth trying in certain districts are:—**Yates' Vanguard**, **Yates' Utility**, **Copenhagen Market**, which are all of the early, solid, round head type; **Winningstadt**, a pointed cabbage but a sure header and good carrier, and in great favor in California; and **Allhead** and **Surehead**.

Market Garden Crops (Continued)

CUCUMBERS

Cucumbers are a paying proposition to many small farmers in moist, mild districts. The seed must be sown in the Spring when all danger of frost is over, in hills about four feet apart each way. The soil must be in good condition and be liberally manured, and to produce fruit of true character the plants must not be checked in any way. About $\frac{1}{4}$ lb. of seed is sufficient per acre.

For the Sydney market **Improved White Spine** is undoubtedly the best to grow, it is of medium length, thick and solid. **Long Green Prickly** is another good market sort.

MELONS

There is always a demand for well grown stuff, and this applies particularly to the Rock Melon, which is such a favorite fruit. Both Water Melons and Rock Melons (including the Cassabas or Winter Keeping Rock Melon) can only be sown in the Spring when the ground is warm. Light rich well manured soil and plenty of warmth and moisture will produce splendid crops.

The varieties most in demand for market use are **Rocky Ford** (especially the new Gold Lined Strain). **Paul Rose** and **Early Hackensack** in the Rock Melons, and **Kleckley Sweets**, **Cuban Queen**, **Tom Watson** and **Dixie** in the Water Melons. For descriptions see Yates' Annual.

ONIONS

Onions do best in rich adhesive loamy soil which should be deeply worked. This is a crop which usually gives splendid returns as shown by the high prices fetched by good onion land. We have dealt more fully with the growing of Onions in our Onion Booklet, which we will gladly post to anyone interested, gratis and post free.

For the warmer districts of N.S.W. and for Queensland, **Yates' Hunter River Early Brown Spanish** is undoubtedly the finest variety. It will give a heavy crop of bulbs when the late varieties fail absolutely. Other very early sorts are **Yates' Light Skinned Spanish** and **Extra Early Golden Globe**, both splendid varieties.

For main crop in a suitable onion district, there is only one variety, and the world over there is no finer market Onion offered. We refer of course to **Yates' Select Long Keeping Derwent Strain of Brown Spanish**. It is in great favor throughout Australia and the United States. About 3 lbs. of seed are required per acre.

PEAS

In the Highland districts around Sydney and on the Tablelands, many farmers now devote a portion of their holding to the growing of green peas for the Sydney market, and in recent years this has proved very profitable. The growing of peas or beans for the vegetable market is excellent practice from a rotation point of view; it rests the land from ordinary farm crops, gives it the advantage of a leguminous crop, and leaves the land in an improved condition for succeeding crops. A fair quality of land and a reasonable use of suitable manure are advisable for best results. **YATES' SELECTED N.Z. GROWN YORKSHIRE HERO PEAS** is the best main crop variety, but there are also now other sorts largely grown such as **Yates' Utility**, **Little Marvel**, **William Wonder**, **William Hurst**, **American Wonder**, **Richard Seddon**, **English Wonder**, and **Greenfeast**, and we shall be pleased to quote on application. Usually 2 bus. per acre is a good sowing and we advise sowing in drills far enough apart to permit frequent horse cultivation in the early stages of the crop.

PUMPKINS

The best table varieties are **Yates' Triamble**, a distinctive three cornered variety with very thick flesh, **Yates' Large Button or Ironbark**, **Yates' Sydney Crown**. Sow at the rate of 2 lbs. per acre during late spring in hills about eight feet apart each way.

TOMATOES

Tomatoes are now grown very extensively and are yielding very good returns to those marketing clean, sound, well graded fruit.

For instructions and general information regarding Tomato culture for market, we would refer readers to our Tomato booklet (post free on application). This year we are offering varieties claimed to have more or less resistance to the wilt disease, and we believe that it is through this quality of "resistance" when more fully developed that the wilt disease will be overcome. In the meantime we suggest these varieties be tried out under growers' local conditions, and that the market crops, especially the early planted areas, be sprayed every fortnight with Lime Sulphur or Bordeaux Mixture.

The useful varieties for market are **Yates' Harbinger**, **Earliana**, **Chalk's Early Jewel**, and **Yates' Market Favorite** for early crop, and **Burwood Prize**, **Targinnie Blue**, **Matchless** and **Large Smooth Red Stone** for main and late crop.

The different varieties only show their true character under favourable conditions; 2 ounces should raise sufficient plants for one acre. See Yates' Annual for descriptions.

TURNIPS

The garden turnips such as **White Stone** and **Nepaul** are usually grown by the intensive market grower near the city, but the **Swede Turnip** is essentially a farmer's crop, and the Sydney market supplies come largely from the highlands of N.S.W. Sowings at the rate of 2 to 3 lbs. per acre should be made in February, March and April, in drills about 2 ft. 6 in. apart. The best variety is **Yates' Champion Purple Top**, a standard globe shaped sort in regular demand in the markets. **Yates' Monarch** is another good sort.

For Prices and Descriptions—

See YATES' ANNUAL

Mr. Alfred F——, Bland Street, Port Kembla, 8-3-25
I may state that I have been a consistent user of your seeds during the past 20 years both in this country and England, and can honestly say I prefer them to other growers.

I have had most successful results from your "Burwood Prize and Yates Tomato." Long Keeping Brown Spanish Onion, Yorkshire Hero Peas, Beans (Dwarf), and must congratulate you on sending out what I consider to be the most perfect seeds.

Mr. F. C. G——, Quarry Road, Bossley Park, 21-3-25
Just to let you know that from the 12 lbs. Canadian Wonder Beans purchased from you last November, we marketed exactly 56 bushels (half a ton) of first class Beans, and used a lot for the household besides. So far I have found your seed most reliable.

Mr. R. V. S——, Hermit Park, Townsville, Q'land, 1-7-25
It gives me pleasure to add that I am getting first class results in my kitchen garden from sowings of Yates' Reliable Seeds, in the form of Cabbage, Beet, Carrot, Radish and Lettuce, but to make special mention of a good crop of Ponderosa Tomatoes, which keep faith with your reputation.

PRICE LIST

SPRAY PUMPS

OF

SPRAYING

PREPARATIONS

SYRINGES

ATOMIZERS, Etc.

As many of these preparations are poisonous they should be kept away from children and domestic animals.

"RELIABLE" ARSENATE OF LEAD.—For all chewing or leaf eating insects, such as pumpkin beetle, codlin moth, grubs, caterpillars, etc.

IN PASTE FORM (1 lb. making up to 30 gals. spray), in tins, 1 lb., 2s. 6d.; 2 lb., 4s. 6d.

IN POWDER FORM (1 lb. making up to 50 gals. spray), $\frac{1}{4}$ lb., 1s.; 1 lb., 3s. 6d.

YATES' "HAROLA" LIME SULPHUR.—For all fungus diseases such as black spot, mildew, rust, etc. 1 gal. makes 10-40 gal. spray, according to purpose. In sealed tins, 1 pt., 1s. 3d.; 1 qt., 1s. 9d.; $\frac{1}{2}$ gal., 2s.; 1 gal., 3s. 6d.; 2 gals., 6s. 6d.; 4 gals., 8s.; 5 gal. drums, 10s.; 42 gal. casks, 1s. 9d. per gal. (casks 7s. 6d. extra, returnable).

"RELIABLE" BORDEAUX MIXTURE.—For Irish Blight on potatoes and similar tomato diseases, (1 lb. makes up to 10 gal. according to purpose required).

POWDER—Per $\frac{1}{4}$ lb., 9d.; per 1 lb., 2s.; over 10 lbs., per lb., 1s. 9d.

BLIGHTY MIXTURE.—For spraying potatoes, grape vines, and tomatoes (1 lb. makes up to 6 gals.). POWDER—1 lb., 1s. 9d.; 7 lbs., 10s. 6d.; 20 lbs., 27s. 6d. Special prices for large quantities.

HARBAS—For scale, woolly aphis, etc., on fruit trees (1 lb. makes 20 to 30 gal. spray). Per 1 pint, 1s. 6d.; 1 quart, 2s. 3d.; $\frac{1}{2}$ gal. 3s. 6d.; 1 gal., 6s.; 2 gals. 11s.; 4 gals., 17s. per tin; 42 gal. casks, 4s. per gal. (casks 7s. 6d. extra, returnable).

BENZOLE EMULSION (in paste form)—For thrip, aphis and Rutherglen Fly, 1 lb. makes 5 gal. spray, per 1 lb. tins, 1s. 9d.

NICOTEEN EFFECTO—For aphis, green fly, etc. Per bottle, to make 6 gal., 1s. 3d.; to make 12 gal., 2s. 3d.; to make 24 gal., 3s. 6d.; to make 48 gal., 6s.; to make 96 gals., 11s.

BLACK LEAF 40—For aphis, green fly, etc. Per bottle, to make 8 gal., 1s. 6d.; to make 16 gal., 2s. 6d.; to make 32 gal., 4s. 3d.; to make 64 gal., 7s. 6d.; to make 128 gal., 12s. 6d.

N.B.—No prices in this book include freight or postage, which is extra in all cases.

Follow the instructions when mixing sprays, as the right strength in many cases varies with the season of the year, and with the crop to be sprayed. Mix thoroughly when preparing for use, and keep fluid agitated to preserve uniform strength.

Select a good Pump, and after each use pass clean water through it to keep the valves and working parts in good order.

THE CRESCENT SPRAY PUMP—For use with bucket or kerosene tin (Success pattern). For private gardens or very small orchards, this is a very good pump. It has a foot adjustment, so that it can be used with an ordinary bucket, which by the way, should be of wood if solutions of copper are used. It is all brass, with ball valves, and is well made. It is fitted with three feet of half-inch delivery hose, a 14-inch brass lance, and a patent Bordeaux nozzle which will deliver the water either in a solid stream or a coarse or fine spray. Price 30s.; with 5ft. hose without lance, 32s. 6d. Postage extra, N.S.W. 2s. 3d., other States 4s. 2d.

For prices of extensions, etc., see following list.

THE MYSTO KNAPSACK SPRAYER, No. 1—(Eclair pattern). These are splendid pumps for general use, well designed and strongly made. They are easily carried on the shoulders. These are used very largely in great Britain for spraying potatoes for Irish Blight, as well as for fruit trees, etc. We can thoroughly recommend them, especially for spraying Bordeaux Mixture. The tank is made of copper, and there is a good agitator. Pump is fitted with a double Vermorel nozzle. Price £5, freight extra.

THE MYSTO KNAPSACK SPRAYER, No. 3—The same as No. 1 but well coated with tin internally, to prevent corrosion when using Lime Sulphur. Price £5 10s., freight extra.

PUMP SUNDRIES—Brass Lance Extension and Tap, 2ft., 5s. 6d.

Bent Brass Extensions (6in. elbows) ... 2s.

"Blind" Caps for Vermorel type nozzles, permitting one to be closed ... 1s.

HOSE FOR SPRAY PUMPS—Strong well made hose for "Crescent" and "Mysto" and other similar pumps, per foot ... 1s. 3d.

ATOMIZERS—Cheap and efficient implements, producing a very fine misty spray.

EXCELSIOR (Oxidised Tin) ... 3s. 6d.

FAVOURITE (Tin) ... 3s.

SYRINGES—In Brass, with one rose and jet, 14 x $1\frac{1}{4}$, 6s. 6d.; 16 x $1\frac{1}{2}$, 7s. 6d.; 18 x $1\frac{1}{2}$, 8s. 6d.

NOZZLES—

BORDEAUX—One of the most generally useful made, 7s. 6d.

MYSTO (Vermorel type), double swivel ... 8s.

" hose nozzle ... 4s. 6d.

GEM hose nozzle, $\frac{1}{2}$ inch and $\frac{3}{4}$ inch ... 3s. 9d.

Spray consistently. It is easier to prevent disease combat them at an early stage than to deal with when serious and widespread.

Broadcast Seed Sowers

For sowing broadcast Lucerne, Clovers, Sudan Grass, Millets, Pasture Grasses, etc. and small areas of Seed Grain, these machines are excellent. We use them on our own farms for sowing Lucerne, Clovers, etc., and we find them of considerable value.

CAHOON BROADCAST SEED SOWER.

A strong well-made machine capable of giving long and satisfactory service. Having filled machine and set gauge as per instructions, commence walking at ordinary pace, giving handle one complete turn each step. This will give a fine even sowing. Price, 35s.

CYCLONE BROADCAST SEED SOWER.

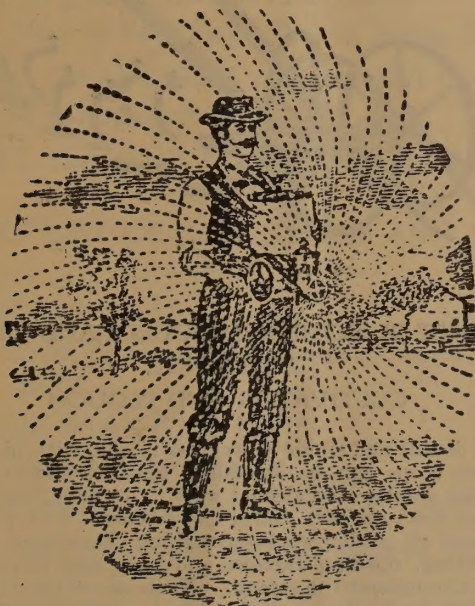
A neat simple machine which has proved very satisfactory in service. The seed is distributed horizontally, the power being obtained by a cranked handle very conveniently placed. Price, 26s.

COLUMBIA BROADCAST SEED SOWER.

Practical, neat, and mechanically correct in construction. Distributes seed evenly and has an automatic cut off. Accurate measuring device. Price, 26s.

FIDDLE SOWING MACHINE.

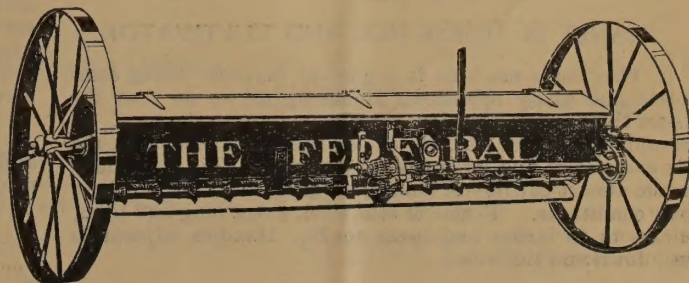
In this machine the action is obtained by a cross motion backwards and forwards, which is preferred by some. Price, 26s.



Cahoon Broadcast Seed Sower.

The "Federal" Lime and Fertiliser Spreader.

For enriching pasture lands and cropping areas. Well and strongly made in 6 ft., 9 ft. and 12 ft. sizes, the 9 ft. being the standard size. All particulars on application.



Yates' Manures and Fertilisers.

Heavy and continuous farm crops and good quality flowers and vegetables cannot be grown without manure. Manuring comes next in importance to physical condition of soil, which in turn is dependent on proper drainage, preparation and cultivation of land.

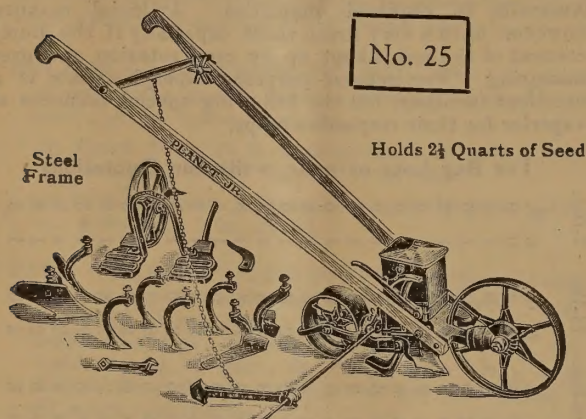
Ordinarily there is nothing to equal stable or farmyard manure, but for farm use it is impossible to obtain in Australia in required quantities. Artificial manures, however, have a very great value, especially if the humus content of the soil is kept up by crop rotation and green manuring. For general purposes superphosphate is an excellent fertiliser, but the following special manures are superior for their respective crops.

For Bag Lots or over, write for Quotations.

Manures.	Ton	Cwt.	56-lbs.	28-lbs.	14-lbs.	7-lbs.
Superphosphate ...	£ 6 5 0	s. 7 6	d. 4 0	s. 2 3	d. 1 3	s. 0 9
Bonedust ...	9 15 0	11 0	5 6	3 0	1 9	1 0
Blood and Bone ...	9 15 0	11 0	5 6	3 0	1 9	1 0
Hydrated Lime ...	10 10 0	12 6	6 3	4 6	2 6	1 6
Sulphate of Ammonia ...	19 0 0	20 0	10 0	5 6	3 0	1 9
Sulphate of Potash ...	19 0 0	20 0	10 0	5 6	3 0	1 9
Nitrate of Soda ...	...	20 0	10 0	5 6	3 0	1 9
Yates' Plant Food ...	...	17 6	8 3	4 3	2 3	1 3
A.Y. Sweet Pea Manure ...	...	16 6	8 9	4 6	2 6	1 6
A.Y. Flowers and Shrubs Manure ...	...	15 6	8 0	4 3	2 3	1 3
A.Y. Potato and Tomato Manure ...	...	16 6	8 6	4 6	2 6	1 6
A.Y. Cabbage and Cauliflower Manure ...	...	15 6	8 0	4 3	2 3	1 3
A.Y. Onion Manure ...	...	15 6	8 0	4 3	2 3	1 3
A.Y. Pea and Bean Manure ...	...	12 0	6 6	3 6	2 0	1 3
A.Y. Pumpkin and Melon Manure ...	...	15 6	8 0	4 3	2 3	1 3
A.Y. Lucerne and Clover Manure ...	...	12 0	6 6	3 6	2 0	1 3
A.Y. Maize and Green Fodder Manure ...	...	15 0	7 9	4 0	2 3	1 3
A.Y. Maize (for Grain) Manure ...	...	13 0	6 9	3 6	2 0	1 3
A.Y. Stone Fruit & Strawberry Manure ...	...	15 6	8 0	4 3	2 3	1 3
A.Y. Citrus, Passion & Grape Manure ...	...	16 6	8 3	4 3	2 3	1 3
A.Y. Special Lawn Manure ...	...	16 6	8 3	4 3	2 3	1 3
A.Y. Rape and Root Crop Manure ...	...	13 0	6 9	3 6	2 0	1 3
A.Y. Hay and Pasture Manure ...	...	13 0	6 9	3 6	2 0	1 3
Powdered Carbonate of Lime 5s. 6d. per bag.	...	...	...	...	...	...

Planet Jr. Implements

THE intelligent use of these wonderful labor saving implements is a big factor in the successful working of market gardens, orchards, etc. Provided reliable seeds only are sown, regular and accurate planting, followed by consistent cultivation, will do more than anything else to ensure big returns. We therefore offer the following machines with every confidence. They are the strongest and most useful on the market, and have an excellent reputation for design and durability.

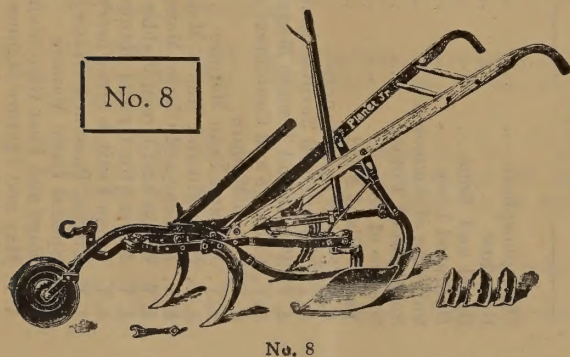


The Combined Hill and Drill Seeder, Double and Single Wheel Hoe, Cultivator and Plow. A most useful tool for all large Gardens. All particulars on application.

PLANET JR. COMBINED HILL AND DRILL SEEDER, DOUBLE AND SINGLE WHEEL HOE, CULTIVATOR AND PLOUGH.

An excellent hand machine for either garden or farm. As its name indicates, it is a well designed tool, combining the functions of an efficient seeder for sowing in drills and in hills, a double wheel and a single wheel hoe, a cultivator and garden plough. It will sow almost all varieties of seeds, and this together with its many other uses makes it one of the most useful tools one can have.

Price on Rail or Steamer Sydney. Weight,
packed, about 60 lbs. £5 17 6



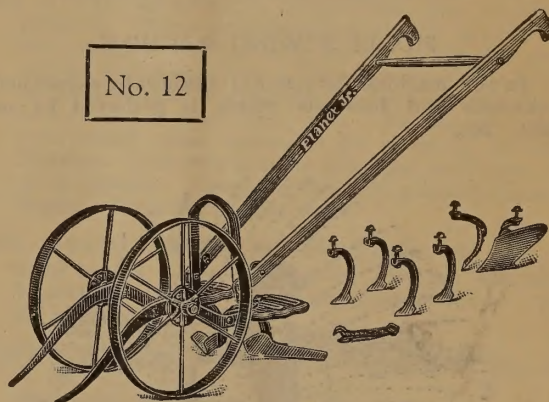
PLANET JR. HORSE HOE AND CULTIVATOR

This horse machine is a general favorite, being complete and easily operated. Believing as we do that the more thorough the cultivation, the more sure the crop, we would like to see at least one of these implements in use on every farm and large market garden. This machine is made almost entirely of steel, well braced and adaptable to any conditions. Frame of stiff steel, extra long and high, closes to 10 inches and opens to 25. Handles adjustable up, down and sidewise.

Cultivator teeth are of high carbon bevelled steel, thereby making them self-sharpening, and the point retain its shape, greatly prolonging the life of the steel. Patent hillers are reversible for hoeing or hilling. Can be run close to the plants without endangering the roots.

We would draw special attention to the depth regulator which operates with the wheel lever. It is an important particular. It controls the depth and steadies the machine, and is adjusted in an instant. The solid steel wheel, having no spokes, does not clog with sticks, stones, or trash.

Price on Rail Steamer Sydney. Weight,
packed, about 84 lbs. £5 15 0



No. 12

PLANET JR. COMBINED DOUBLE AND SINGLE WHEEL HOE, CULTIVATOR AND PLOUGH

A double and single wheel hoe in one, with high arch, so that crops can be straddled until 20 inches high—ensuring quicker and cleaner work. It may then be used between the rows with one or two wheels. Will do almost any kind of garden work—ploughing, harrowing, hoeing, cultivating, opening furrows, covering and hilling, and useful throughout the season. Tools are of special design and specially hardened, giving great satisfaction and long service. The hoes are the most useful attachment and wonderful weed killers. All steel cultivator teeth for deep or shallow work, reversible ploughs for opening or closing furrows, and leaf lifters for late cultivation.

To work effectively the ground must be in a good loose and friable condition. In heavy and badly worked land the use of this implement is not satisfactory.

Price on Rail or Steamer Sydney. Weight,
packed, about 33 lbs. £3 0 0

Yates

CURRENT PRICE LIST

of Recleaned and Tested FARM SEEDS

CONDITIONS OF SALE AND NON-WARRANTY

We believe that all Seeds, Bulbs, and Roots sold by us are of the description and kind specified by us at the time of sale, but owing to the practical impossibility in many cases of being certain of this, we give no undertaking that such Seeds Bulbs or Roots will correspond with the description under which they are sold, and we make all sales subject to this condition. We further give no warranty, expressed or implied, as to their growth, description, quality or productiveness, and will not be in any way responsible for the crop. If the purchaser does not accept the goods sold to him on these terms, they are at once to be returned to us, and any money paid to us will be refunded.

ARTHUR YATES & CO. LTD.

ARTHUR YATES & CO LTD

184 & 186 SUSSEX ST SYDNEY

POSTAL ADDRESS, 2707 G.P.O.

TELEGRAMS, SEEDSMAN SYDNEY

Yates Recleaned & Tested Farm Seeds

Current Price List

THE PRICES quoted herein are those ruling at this date. Quotations are subject to sales and to market fluctuations.

Orders should be accompanied by remittance for the approximate amount of the order, and including freight when goods are required by coastal steamer or by passenger train. Please add exchange to country cheques. Orders sent by goods train are consigned, carriage forward (except to unattached platforms), unless we are otherwise instructed at time of order. We deliver seeds on rail or wharf, Sydney, after which seeds are on customer's account, and at his risk.

Grass and Fodder Seeds (except Seed Grain) are invoiced at net weights, and bags charged for. This is to buyer's advantage. Our terms for all Agricultural Seeds are strictly Net Cash. Samples of any lines sent for inspection.

GRASS SEEDS.

NATIVE VARIETIES.

Danthonia (Wallaby Grass) scarce	...	*	lb.
Mitchell Grass (Astrebla) (to arrive)	...	*	lb.
Australian Blue Grass (Andropogon)	...	*	lb.
Coolah Grass	...	*	lb.
Native Millet	...	*	lb.
Flinders Grass	...	*	lb.

INTRODUCED VARIETIES

Rhodes Grass	...	1/4	lb.
" " 56lbs. and over	...	1/2	lb.
Paspalum Dilatatum—			
Yates Prime hand-shaken	...	2/-	lb.
" " 56lbs. and over	...	1/11	lb.
Paspalum Compressum	...	1/9	lb.
Couch (Cynodon dactylon)	...	2/9	lb.
" " 56lbs. and over	...	2/8	lb.
Tall Oat Grass (Avena elatior)	...	1/5	lb.
" " " over 28 lb.	...	1/4	lb.
Phalaris Bulbosa, true Perennial variety	...	6/6	lb.
Kikuyu Grass (roots only)	5/- per 100 ; 35/-	1000	
Cocksfoot, Yates Extra Heavy Re-machined	25/-	bus.	
Prairie, Yates Finest Re-machined	7/6	bus.	
Awnless Brome Grass (Bromus inermis)	1/11	lb.	
over 28 lbs.	1/10	lb.	
Rye Grass, Perennial—			
Yates Extra Heavy Poverty Bay	14/6	bus.	
Yates Special Old Pasture	9/-	bus.	
Rye Grass, Italian—			
Yates Heavy Re-machined	7/10	bus.	
Westerwoldicum Re-machined	8/5	bus.	
Rye Grass, Wimmera (True)	16/3	bus.	
Poa pratensis (Kentucky Blue Grass)	2/6	lb.	
Poa trivialis	1/11	lb.	
Poa nemoralis	2/11	lb.	
Texas Blue Grass (roots only)	7/6 per 100		
Elephant Grass (cuttings only)	7/6 per 100		

Fescue, Hooker's or Giant	...	2/6	lb.
Fescue, Tall	...	1/6	lb.
Fescue, Chewings	...	1/2	lb.
Fescue, Meadow	...	1/-	lb.
Agrostis canina (Brown Top)	...	3/7	lb.
Agrostis vulgaris (Red Top)	...	1/4	lb.
Agrostis stolonifera (Creeping Bent or			
Fiorin)	...	2/9	lb.
Teff Grass	...	1/6	lb.
Timothy	...	1/2	lb.
Meadow Foxtail	...	2/6	lb.
Crested Dogtail	...	1/6	lb.
Yorkshire Fog	...	9d	lb.
Rib Grass, or Lamb's Tongue	...	7d	lb.

CLOVER SEEDS.

White, Yates' AY Superfine	...	2/2	lb.
" " " over 28lbs	...	2/1	lb.
Wild White (English grown)	...	10/3	lb.
Cow Grass, Yates Superfine, N.Z.	...	1/7	lb.
Perennial Red, Yates N.Z. grown	...	1/7	lb.
Perennial Red, Fine Imported	...	1/6	lb.
Crimson (Trifolium incarnatum)	...	1/-	lb.
Alsike	...	1/4	lb.
Berseem (Egyptian Clover)	...	1/6	lb.
Subterranean Yates' AY	...	3/3	lb.
" " 28 lbs. and over	...	3/2	lb.
Strawberry (Shelled Seed)	...	*	lb.
English Yellow Trefoil (Medicago			
lupulina)	...	11d	lb.
Lotus corniculatus	...	3/-	lb.
Lotus major	...	4/-	lb.
Lotus Angustissimus	...	*	lb.
Medicago orbicularis (Burrless Clover)	...	*	lb.
Medicago denticulata (Burr or Native			
Trefoil) Shelled Seed	...	1/3	lb.
Bokhara (Melilotus alba)	...	1/6	lb.

LUCERNE.

Yates' A.Y. Broadleaf Giant Upright—This is the proved best strain for all purposes and Australian conditions. For full information see Yates' Lucerne Booklet. Supplied only in sealed and branded bags

25 lbs. 2/9 lb.; 50 lbs. 2/8 lb.

Small lots under 25 lbs.	...	...	2/10 lb.
25 lbs. and over	...	...	2/9 lb.
50 lbs. and over	...	...	2/8 lb.
5 cwt. and over	...	...	2/7½ lb.
10 cwt. and over	...	...	2/7 lb.

LEGUMINOUS CROPS.

(OTHER THAN CLOVER AND LUCERNE)

Market Beans—See Market Garden Crops	*	
Cow Peas—Black Seeded	...	23/6 bus.
" " Clay Coloured (to arrive)	...	23/6 bus.
Soy Beans—All Varieties, see Catalogue	...	1/- lb.
Velvet Beans	...	1/6 lb.
Market Peas—See Market Garden Crops		
Peanuts—Large White Chinese	...	1/6 lb.
" " over 14 lbs	...	1/4 lb.
" " Red Spanish	...	1/3 lb.
" " over 14 lbs	...	1/1 lb.
Field Peas—(Prime Seed Samples)		
Grey or Partridge	...	10/9 bus.
Blue	...	11/6 bus.
Dun	...	11/3 bus.
Lupin, Annual Blue	...	17/6 bus.
Tares or Vetches—Golden	...	13/6 bus.
English Grey	...	14/6 bus.
Large Scotch Grey	...	18/3 bus.
Horse or Tick Beans	...	10/6 bus.
Kudzu Vine (in packets only)	...	1/- pkt.

SEED MAIZE

SELECTED AND REGRADED SAMPLES

Early Morn	...	...	16/- bus.
Ninety Day (Victorian)	(to arrive)	9/6	bus.
Small Early Learning	...	9/-	bus.
Small Early Red Hogan	...	9/-	bus.
Silvermine	...	11/-	bus.
Funk's Early Yellow Dent	...	11/-	bus.
Wellingrove (or Early Yellow Dent)	...	10/-	bus.
Hickory King, graded for Fodder...	...	9/-	bus.
" " selected for Grain (to arrive)	...	12/-	bus.
Giant White	...	*	bus.
Manning White	...	*	bus.
Selected Yellow Moruya	...	9/-	bus.
Goldmine	...	11/-	bus.
Large Red Hogan	...	10/-	bus.
Yellow Hogan	...	9/6	bus.
Yellow Horse Tooth	...	*	bus.
White Horse Tooth	...	9/-	bus.
Yellow Hawkesbury	...	9/-	bus.
Fitzroy (or Improved Yellow Dent)	...	*	bus.

SUDAN GRASS

The Great Summer Fodder Crop

Our samples are specially selected and thoroughly Re-machined.

Small lots under 28 lbs.	...	...	9d. lb.
28 lbs. and over	...	...	8d. lb.
56 lbs. and over	...	...	63/- cwt.
5 cwt. and over	...	...	60/- cwt.
10 cwt. and over	...	...	57/6 cwt.

SORGHUM

Black Sorghum	...	...	* cwt.	lb.
No. 34	...	...	1/-	lb.
Ambercane	...	...	32/6 cwt.	5d. lb.
Sumac	...	...	1/6	lb.
Planters Friend	...	...	62/6 cwt.	8d. lb.
Saccaline	...	...	62/6 cwt.	8d. lb.
Collier	...	...	1/6	lb.
Honey	...	...	1/-	lb.
No. 61	...	...	1/6	lb.
White African	...	...	1/-	lb.

GRAIN SORGHUM

White Yolo	...	...	1/-	lb.
Feterita	...	...	1/-	lb.
Milo	...	...	1/-	lb.
Manchu Kaoliang	...	...	1/-	lb.

MILLET

Japanese	...	...	20/- cwt.	3d lb.
White French	...	...	20/- cwt.	3d lb.
Hungarian	...	...	17/6 cwt.	3d lb.
Pearl	...	...		1/9 lb.
Broom	...	...		6d lb.

SEED OATS.

Algerian—Yates' A.Y. Ex. Prime Re-mach.	5/5	bus.
" " 56 bus. and over	5/4	bus.
" " Good Re-cleaned	5/3	bus.
" " 56 bus. and over	5/2	bus.
Sunrise A.Y. Re-machined	5/11	bus.
" " 56 bus. and over	5/10	bus.
Mulga AY Re-machined	7/6	bus.
" " 56 bus. and over	7/5	bus.
Guyra	6/6	bus.
Ruakura	6/1	bus.
White Tartarian	6/6	bus.
Black Tartarian	7/3	bus.
Heavy White	7/5	bus.
Heavy Black	7/6	bus.
Dun	*	bus.

SEED WHEAT.

Re-cleaned Samples from Select Stocks

Florence, Thew	...	11/- bus.
Federation	...	10/- bus.
Hard Federation	...	10/- bus.
Marshall's No. 3	...	10/- bus.
Yandilla King	...	10/- bus.
Reduction 1d. bush. ton lots or over		

SEED BARLEY.

Cape, selected, free of smut	...	7/4 bus.
Skinless	...	8/3 bus.
English	...	8/3 bus.

RYE CORN.

Mammoth White	...	8/- bus.
Emerald	...	* bus.

SOWING RAPE.

Yates "AY" Dwarf Broadleaf Essex, 8d. lb.; 57/6 cwt.

SUNDRY FODDER CROPS.

Artichokes (Jerusalem) tubers only	...	15/- cwt.
Buckwheat, Japanese (50 lbs. bus.)	...	14/- bus.
Burnet, Sheeps'	...	* lb.
Canary Seed (for sowing) Queensland		
grown	...	60/- cwt. 8d. lb.
Large Moroccan grown	...	70/- cwt. 9d. lb.
Kale, Thousand Headed	...	2/6 lb.
Kale, Chou Moellier	...	3/6 lb.
Linseed (Flax)	...	6d lb.
Melons, Mixed Cattle	...	4/- lb.
Mustard, Agricultural	...	1/2 lb.
Pumpkin, Mammoth Cattle	...	7/- lb.
Pumpkin, Gramma	...	8/6 lb.
Pumpkin, Mixed Cattle	...	4/- lb.
Silver Beet	...	1/6 lb.
" " over 28 lbs.	...	1/3 lb.
Sunflower, Black Seeded	...	1/3 lb.
" " over 28 lbs	...	1/- lb.
Sunflower, Striped Seeded	...	1/6 lb.
" " over 28 lbs.	...	1/3 lb.
Old Man Salt Bush (Atriplex nummularia)	...	5/- lb.
Creeping Salt Bush (Atriplex semibaccata)	...	5/- lb.
Kurrajong (Sterculia diversifolia)	...	1/6 oz.
Tagosaste (so-called Tree Lucerne)	...	4/6 lb.

ROOT CROPS.

Mangold—Yates' Mammoth Long Red,		
Golden Tankard, Long Yellow, Yellow		
Globe, Sludstrup	...	2/- lb.
Giant Half Sugar, White and Rose	...	2/3 lb.
Sugar Beet	...	3/6 lb.
Swedes—Yates Champion Purple Top	...	2/- lb.
" " Yates' Monarch	...	2/- lb.
Field Turnips—Best Varieties	...	2/- lb.
Field Carrots—Varieties	...	4/6 lb.

SEED POTATOES

See Special Price List. Available in July.

MARKET GARDEN CROPS.

Peas—Yorkshire Hero, Yates' Selected		
N Z. Grown...	...	25/- bus.
Peas—Greenfeast, English Wonder, American		
Wonder	...	36/- bus.
Apply for Price List of other Varieties		
Beans—Canadian Wonder Yates' Selected...	29/-	bus.
" " Prime Re-cleaned	28/-	bus.
Broad Beans—Early Long Pod	25/-	bus.
" " Yates' Dreadnought Long Pod	*	bus.
" " Broad Windsor	25/-	bus.
Other Vegetable Seeds—See Yates' Annual		

Lines marked * are not at present in stock, but supplies may be available a little later—write us.

ARTHUR YATES & CO. Ltd. 184-186 SUSSEX STREET, SYDNEY

Telegrams: "SEEDSMAN SYDNEY,"

Please Turn Over.

APPROXIMATE QUANTITIES TO SOW PER ACRE

And Weight in lbs. of varieties quoted per bushel

Farm Seeds

Sow per acre if
used alone

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	Sow per acre if used alone
Danthonia	15 lb.
Mitchell Grass	2 to 3 lb.
Rhodes Grass	4 to 6 lb.
Paspalum Dilitatum	10 lb.
Paspalum Compressum	5 lb.
Couch Grass	10 lb.
Tall Oat Grass	20 to 30 lb.
Phalaris Bulbosa	6 to 8 lb.
Kilkuya Grass	2500 roots
Cocksfoot, 20 lb. bus.	1½ bus.
Prairie Grass 20 lb. bus.	1 to 2 bus.
Awnless Brome Grass	20 to 30 lb.
Rye Grasses, 20 lb. bus.	1½ to 2 bus.
Mixed Grasses, 20 lb. bus.	1 to 1½ bus.
Grasses and Clovers, Mixed	25 to 30 lb.
Clovers. sown alone	8 to 12 lb.
„ sown with grasses	2 to 3 lb.
Subterranean Clover	3 to 4 lb.
Strawberry Clover	from 1 lb.
Lucerne, moist localities, broadcast	12 to 15 lb.
Lucerne, moist localities, drilled	8 to 12 lb.
Lucerne, dry districts	6 to 10 lb.
Cow Peas, drilled	10 lb.
60 lb. bus. broadcast	½ to 1 bus.

Soy Beans, drilled	15 lb.
„ 60 lb. bus. broadcast	1 bus.
Velvet Beans, in wide drills	15 lb.
Market Beans, 60 lb. bus.	2 bus.
Peanuts	nuts 30 to 40 lb. shelled seed 10 lb.
Field Peas, 60 lb. bus.	2 bus.
Lupins, 60 lb. bus.	2 bus.
Tares or Vetches, 60 lb. bus.	1 to 2 bus.
Horse or Tick Beans, 60 lb. bus.	2 bus.
Maize, in rows for grain	8 to 12 lb.
Maize, 56 lb. bus., broadcast	1 to 1½ bus.
Sorghum, Broadcast	20 to 30 lb.
„ in drills	10 lb.
Grain Sorghum	4 to 6 lb.
Millet, broadcast	20 lb.
„ in drills	10 lb.
Sudan Grass	8 to 12 lb.
Seed Oats, 40 lb. bus.	2 bus.
Seed Wheat, 60 lb. bus., in drills for grain	¾ to 1 bus.
Seed Wheat, broadcast	1 to 2 bus.
Barley, 50 lb. bus.	2 bus.
Rye Corn, 60 lb. bus.	2 bus.
Sowing Rape	3 to 6 lb.
Sheeps Burnet	10 to 12 lb.
Sunflower, in rows	12 lb.
Artichokes	4 to 6 cwt.

Buckwheat, 50 lb. bus., broadcast	1 bus.
„ in drills	25 lb.
Canary Seed	17 to 20 lb.
Linseed	60 lb.
Cattle Melon	2 lb.
Cattle Pumpkin	1 to 2 lb.
Mustard	8 lb.
Silver Beet	4 lb.
Mangolds	5 lb.
Sugar Beet	8 lb.
Field Carrot	3 lb.
Swede Turnips	2 to 3 lb.
Potatoes	6 to 8 cwt.

Market Garden Crops

Garden Beans, 60 lb. bus.	2 bus.
Cabbage	¾ lb.
Cauliflower	¾ lb.
Cucumber	¾ lb.
Melon, Water	2 lb.
„ Rock	¾ lb.
Onion	3 lb.
Peas, 60 lb. bus.	2 bus.
Pumpkin	2 lb.
Tomatoes	2 oz.
Turnip	2 to 3 lb.

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YATES' GARDEN GUIDE

The most complete and most popular small manual on Australian Gardening yet published, which comprises one hundred and eighty pages, and has been completely revised 1s. post free

HOW TO GROW ONIONS FOR MARKET

A small booklet on Onion Growing. Post free

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A specially written booklet on Tomato Culture. Post free

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With Price List of Vegetables and Flower Seeds, Bulbs, Farm and Agricultural Seeds Published March/April.
Post free

WINTER PLANTING LISTS

Trees and Shrubs, etc. Published May.
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YATES' POTATO AND SPRING FODDER LIST

Special List of Potatoes and all Fodder Seeds suitable for Spring sowing. Published in August.
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Of Seasonable Lines and Chrysanthemums and Dahlias. Published October.
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A SHEEP MAN'S OPINION.

. . . . "In all branches of Farming and Stock Raising, new methods and ideas are ever coming to the fore, and as regards Fat Lamb Raising we have reached the stage when the growing of Fodder Crops must be considered a necessary and essential part of the General Farm Practice."

The above is the considered opinion of one of the leading speakers at a recent conference of Farmers in the Central Western District. Although special reference is made to Fat Lamb Raising, the principle applies just as much to all other branches of stock husbandry, including Dairying, Sheep Breeding, Pig and Poultry Farming. There is not the slightest doubt that all these branches of production will in time adopt a more and more intensive style of Farming and a greater variety in the system of Cropping.



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